



BRITISH COLUMBIA MINES & MINERAL EXPLORATION OVERVIEW 2008



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Ministry of Energy, Mines and Petroleum Resources

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INTRODUCTION

British Columbia is Canada's largest producer of copper; its only producer of molybdenum and the largest exporter of coal. The province's many mines and quarries also produce a wide variety of commodities and products, including gold, silver, zinc, lead, magnesite, gypsum, limestone, dimension stone and aggregate. This reflects only part of British Columbia's rich resource potential as its diverse geology hosts a wide range of mineral commodities, including over 30 different industrial minerals.

Enhancing British Columbia's geological potential are the award winning, easily accessible geoscience databases and the province's strategic location on the Pacific Rim, providing easy access to world markets, and in particular, reduced shipping times from North America to key, growing markets in Asia. These advantages, together with attractive energy costs, a well-developed, all weather highway system, rail links and a number of deep water ports, means British Columbia can move its mineral commodities to world markets quickly and efficiently.

The total value of solid mineral production for British Columbia for 2008 is estimated at \$5700 million. During 2008, one new metal mine, **Lexington-Grenoble**, commenced operation and the rich gold and silver producer, **Eskay Creek**, closed. The operating metal mines remained at 10 and there were no changes in the number of operating coal mines in the province, which remained at nine.

Mineral exploration spending in 2008 was \$367 million, making it the second highest year on record and remaining well above the levels earlier in the decade (Figure 1). These figures demonstrate that British Columbia continued to attract a significant share of the Canadian total exploration spending. Exploration drilling was also near record levels at 1.05 million metres; it declined 16% from the previous year. Both of these statistics show the industry's commitment to advancing exploration activities.

The number of mine development projects, as indicated by applications to the provincial Environmental Assessment Office (EAO), is 25, with an additional 5 projects in the permitting process of the

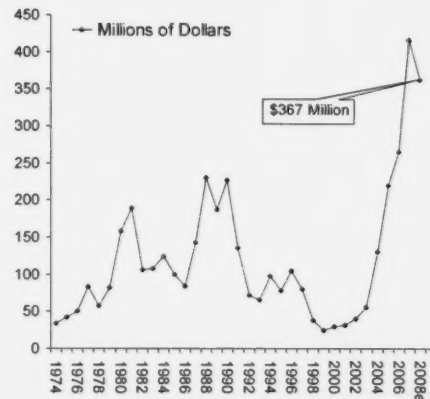


Figure 1. Mineral exploration expenditures 1974 - 2008.

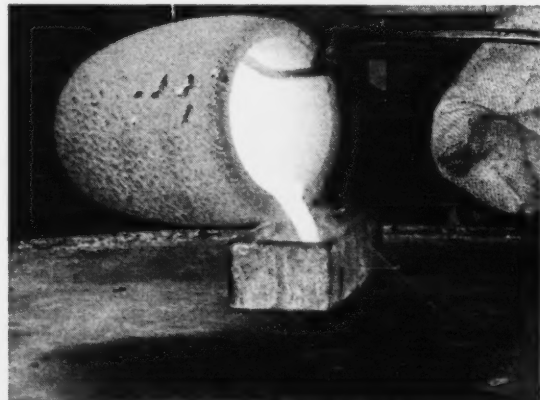


Photo 1. Gold pour at the Greenwood Mill (courtesy Merit Mining Corp).

British Columbia Ministry of Energy, Mines and Petroleum Resources as of November 2008.

People employed in British Columbia's mineral industry (mine and mill workers, engineers and geoscientists, managers and technical experts in many fields) are highly skilled and productive and are in demand throughout the world. Vancouver has become a major financial centre strongly oriented to international



Photo 2. Eskay Creek Mine geologist and miners at No. 1 Portal in 2003.

trade in natural resources. Vancouver is also an important source of capital for mineral exploration and mine development, both within the province and internationally. British Columbia is internationally recognized as a centre of excellence in mining and related fields, such as metallurgy, environmental engineering, mine safety, and the geosciences.

Sixty per cent of Canadian exploration and mining companies are based in British Columbia, which has the world's largest concentration of exploration companies and mining professionals. In 2008, (to the end of November), British Columbia-based companies raised \$2.9 billion in equity capital on the TSX and TSX Venture Exchanges or about 40% of the total equity capital raised for TSX and TSX-V listed exploration companies. The economic activity was carried out by more than 770 publicly-listed British Columbia companies which account for 54% of the national total.

The British Columbia government supports mining as a key part of the provincial economy. One of the advantages of exploring and mining in British Columbia are attractive tax rates and programs. The *Mining Exploration Tax Credit Program* and *Exploration Investment Tax Credit* for flow-through investors, provide additional incentives to attract risk capital to the province. The British Columbia and federal non-refundable tax credits, when added to the regular 100% deductions are equivalent to a 141% exploration expense deduction for income tax purposes. In addition, the *Mining Exploration Tax Credit* has been increased to 30% for qualified mineral exploration undertaken in prescribed Mountain Pine Beetle affected areas of the province.

Enhancing British Columbia's geologic potential and modern infrastructure is the government's geoscience database and modern, web-based mineral tenure system. Two of the main pillars of the system are MapPlace and Mineral Titles Online. MapPlace is an online application that provides easy interactive map access to information related to British Columbia's geology, mineral exploration, mining and energy resources. Mineral Titles Online allows people to acquire and maintain mineral titles by establishing mineral dispositions on a seamless digital geographic information system.

Throughout this report, the descriptions of mines, mine development projects and exploration properties are presented by region. As there were 388 exploration projects active in the province in 2008, this overview article describes only the larger exploration projects. The overview is linked to the map of *Operating Mines and Selected Major Exploration Projects in British Columbia 2008* (Open File 2009-1). Readers are encouraged to refer to the more detailed regional overviews presented in *Exploration and Mining in British Columbia 2008* (EMBC 2008) volume for additional information.

MINING HIGHLIGHTS

Coal, copper and molybdenum are expected to remain BC's first, second and third most important solid mineral products by value, with coal widening its lead in 2008. Nearly all of these products are exported. The value of solid mineral production in 2008 is estimated at approximately \$5700 million, similar to 2006 and 2007. Forecast 2008 production and reserve estimates for the individual mines are listed in Table 1.

Coal production in BC is forecast to have increased to over 27 million tonnes in 2008, with production up at most mines. Producers reported receiving record prices in their metallurgical coal contracts during the year. The large majority of coal produced in BC is metallurgical, specifically hard coking coal. In recent years almost two-thirds of the coal from the Southeast coalfields goes to Asia, while one-third of the coal is shipped to Europe. The Northeast coalfields ship to these destinations and also South America.

There are three major coal terminals at British Columbia's ports. The largest bulk terminal on the western coast of the Americas is **Westshore Terminals** at Roberts Bank near Vancouver with a capacity of approximately 24 million tonnes per year. An expansion to 29 million tonnes per year is scheduled for completion in 2009. **Neptune Bulk Terminals** in North Vancouver has a capacity of 8 million tonnes per year (also expandable) and **Ridley Island Terminal** at Prince Rupert expects to handle just over 5 million tonnes this year with current capacity of 12 million tonnes. The Canadian National rail line to Prince Rupert

also has significant unused capacity. There is another ice-free, deep water, bulk terminal at Stewart, BC.

Copper production in British Columbia is expected to be 209 million kg, a slight decrease from 2007 values of 252 million kg, however, increased output at some mines offset some decline in production at others. Molybdenum production will be higher than 2007 with an estimated 2008 production of 7.4 million kg compared to 6.8 million kg in 2007. This is due to Endako maintaining similar production levels and contribution through the entire year by the small, higher grade producer, MAX.

The contribution of industrial mineral and aggregate production is also significant, estimated at 7.7% and 5.1% of the total value respectively. The value of industrial minerals production in 2008 is estimated at over \$400 million. A major part of this is cement, a value added product made from locally mined raw materials. Construction aggregates are estimated to be worth almost \$300 million annually. Several million tonnes are exported from large coastal quarries, California being the largest market. There were more than 30 active industrial minerals quarries in 2008 and well over 1000 aggregate operations varying from large quarries operating continuously to small borrow pits used infrequently.

Of the 10 operating metals mines, at least three began or continued expansion in 2008. These expansions were placed on hold or modified later in the year as most metal prices fell and financial markets took a major downturn. Two metal mines announced temporary closures. One coal mine was planning a significant expansion, while the proposed reopening of the Willow Creek mine in early 2009 was deferred.



Figure 2. Solid mineral production value in British Columbia 1990 - 2008.

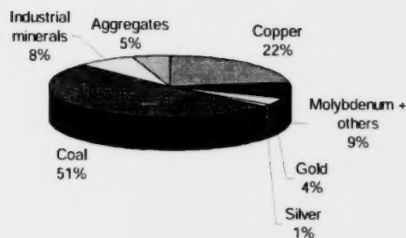


Figure 4. Forecast distribution of British Columbia mineral production by commodity - 2008.

Northwest British Columbia - Major Mines

The **Endako** open-pit molybdenum mine, operated and 75% owned by Thompson Creek Metals Company, expects to produce about 4000 tonnes of molybdenum in 2008 from approximately 10 million tonnes of ore, all from the newly developed West Denak pit. The 45 year-old mine is a low-cost producer, utilizing an in-pit crusher and ore conveyor that is being relocated to West Denak. A project to expand and modernize the mine and mill to increase output from 28 000 to 50 000 tonnes per day began in mid-year but was later put on hold.

Operations continued normally at the **Huckleberry** copper-molybdenum mine. Reserves are limited; therefore, a decision to develop a low-grade resource must be made in 2009 if the mine is to continue beyond 2010. Huckleberry mills about 21 000 tonnes of ore per day and is forecast to produce 18 000 tonnes of copper.

The **Eskay Creek** gold-silver mine closed in early 2008 and most of the site has been reclaimed. Over its 14 year life Eskay Creek produced slightly more than 100 tonnes of gold (about 3.3 million ounces) and 5000 tonnes of silver from 2.3 million tonnes of ore.



Photo 3. Gordon Clark, Vice President and General Manager, oversees initial mining in Denak West pit, Endako Mine.

Operating Mines And Quarries in British Columbia 2008

10 ✕ Metal Mine
9 ✕ Coal Mine
35 ✕ Industrial Mineral

Kilometres

Metal Mines commodity codes

Ag - Silver
Au - Gold
Cu - Copper
Mo - Molybdenum
Zn - Zinc

Industrial Minerals commodity codes

At - Aggregate
Ba - Barite
Bn - Bentonite
Bs - Bauxite
Ca - Building stone
Cl - Clay
Dn - Dolomite
Fz - Fuller's earth
Gx - Gypsum
Ls - Limestone
Mg - Magnesite
Mn - Manganese
Nf - Natural gas
Ph - Potash
Sh - Shale
Sl - Silica
Ss - Scoria
Ta - Tantalum
Zc - Zeolite

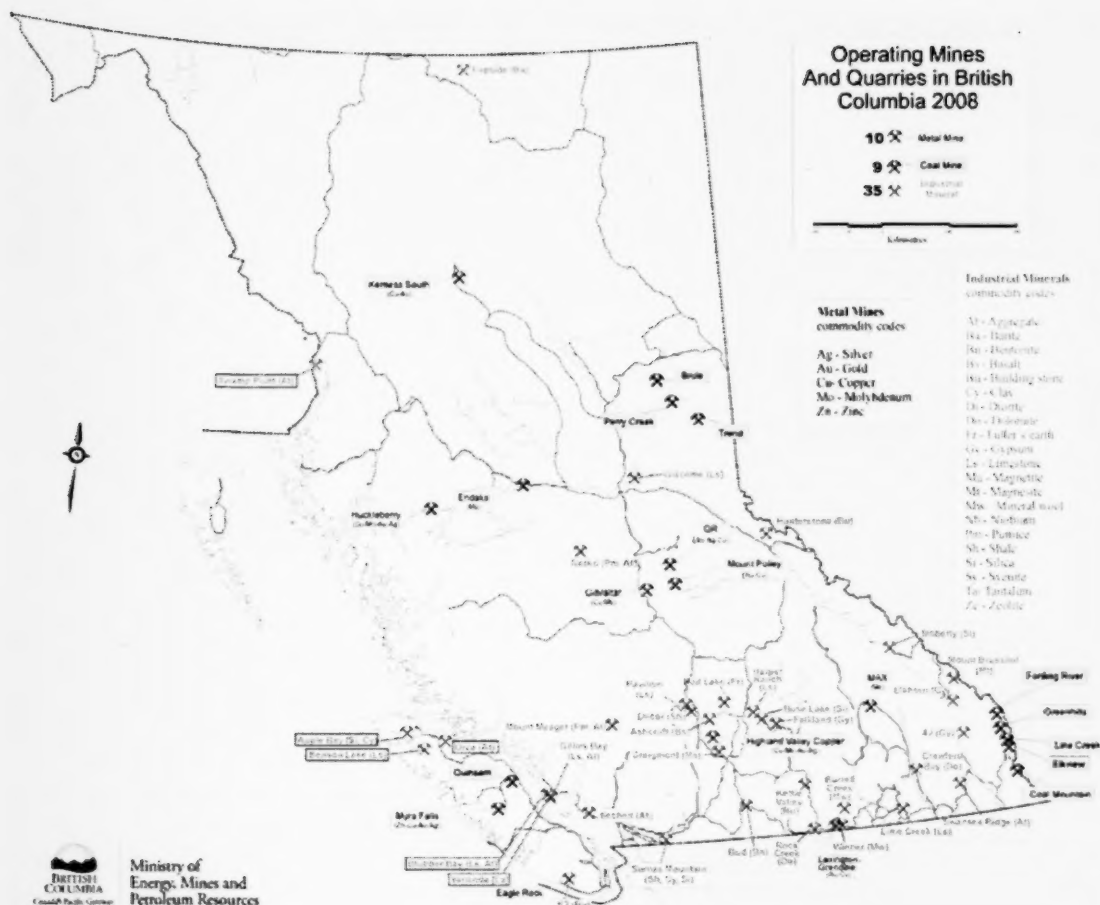


Figure 3. Mines and quarries 2008.

Northeast British Columbia - Major Mines

The provincial increase in coal production in 2008 came largely from the new mines in the Northeast coalfields. Production from the three mines climbed to a forecast production of 4.9 million tonnes. This is a major economic turnaround as the region's coal production had stopped entirely following the closure of the Bullmoose mine in 2003.

Production at Peace River Coal's (PRC) **Trend** mine, for 2008, was targeted at 1.4 million tonnes of mostly metallurgical coal with a small amount of thermal coal, from coal reserves of over 21 million tonnes. Production is expected to increase to a total of 3 million tonnes per year by 2012 as the nearby **Roman Mountain** deposit is added to production. The estimated production life is about 10 years. PRC ships, through the Ridley Terminals Inc at Prince Rupert, to markets in Japan, Korea and Europe.

Western Canadian Coal (WCC) continued production from its **Perry Creek** mine, with current production of about 2.2 million tonnes/year of clean metallurgical coal from total reserves of 32.5 million tonnes, and a projected pit life of 10 years. The nearby **EB** and **Hermann** deposits have a total of 42.4 million tonnes of reserves. Subject to regulatory approvals, production is planned to increase to 3 million tonnes per year, which would equal the capacity of the preparation plant. Shipping is through Ridley Terminals Inc to markets in Asia, Europe and South America.

WCC's **Brule** mine is located adjacent to the former Dillon mine, which closed in September 2006 after reserves were exhausted. Forecast production in 2008 was 1.3 million tonnes of run-of-mine coal, and the company's intent is to increase this to 2.0 million tonnes/year in 2009. *In situ* reserves as of December 2007 stood at 38.6 million tonnes. At present, coal is trucked to the Bullmoose loadout facility. Plans had been to build a road northward to the **Willow Creek**

TABLE 1. FORECAST MINE PRODUCTION 2008

Mine	Operator	Deposit Type / Commodity	Forecast Production in 2008 (tonnes or kilograms)	Proven and Probable Reserves (on Jan. 1, 2008 or as indicated)
Metals				
Endako	Thompson Creek Metals	Porphyry Mo	3900 to 4500 t molybdenum	292 800 000 t at 0.050% Mo
Eskay Creek	Barrick Gold Corp	VMS / Au-Ag	480 kg Au, 27 800 kg Ag	31 750 t at 15.7 g/t Au, 878 g/t Ag
Gibraltar	Taseko Mines Ltd	Calcalcalic porphyry / Cu-Mo	26 800 t Cu, 299.8 t Mo (Sept year end)	384 000 000 t at 0.31% Cu, 0.009% Mo (proven, Sept 30 2007)
Highland Valley Copper	Teck Ltd / Highmont Mining Company Ltd	Calcalcalic porphyry / Cu-Mo	114 000 t Cu, 1600 t Mo, minor Au and Ag	451 000 000 t at 0.38% Cu, 0.007% Mo
Huckleberry	Huckleberry Mines Ltd (50% Imperial Metals Corp)	Porphyry Cu-Mo	18 000 t Cu	16 560 000 t at 0.352% Cu, 0.005% Mo
Kemess South	Northgate Minerals Corp	Calcalcalic porphyry / Au-Cu	5925 kg Au, 27 669 t Cu	51 800 000 (Dec 2007)
Lexington-Grenoble	Merit Mining Corp	Vein / Au-Cu	45 000 t ore	Measured and indicated resource of 297 000 t at 8.36 g/t Au, 1.35% Cu
MAX	Roca Mines Inc	Porphyry Mo	109 000 t ore	Measured and indicated resource of 280 000 t at 1.95% MoS ₂
Mount Polley	Imperial Metals Corp	Alkalic porphyry / Cu-Au-Ag	38 100 t Cu, 992 kg Au, 2260 kg Ag	104 900 000 t at 0.33% Cu, 0.31 g/t Au (March 2008)
Myra Falls	NVI Mining Ltd (Breakwater Resources Ltd)	VMS / Zn-Cu-Au-Ag	34 200 t Zn, 4900 t Cu, 440 kg Au, 19 800 kg Ag	5 835 000 t at 5.4% Zn, 0.5% Pb, 1.0% Cu, 1.3 g/t Au, 45 g/t Ag (Dec 2007)
QR	Cross Lake Minerals Ltd	Skarn / Au	539 kg Au	356 000 t at 5.7 g/t Au (Sept 2007)
Coal				
Brule	Western Canadian Coal Corp	PCI coal	1 300 000 t	38 600 000 t (Dec 2007)
Coal Mountain	Teck Coal Limited	Metallurgical coal	2 395 000 t	28 200 000 t
Elkview	Teck Coal Limited	Metallurgical coal	4 900 000 t	235 000 000 t
Fording River	Teck Coal Limited	Metallurgical coal	8 200 000 t	216 700 000 t
Greenhills	Teck Coal Limited	Metallurgical coal	4 580 000 t	88 900 000 t
Line Creek	Teck Coal Limited	Metallurgical and thermal coal	2 200 000 t	17 400 000 t
Wolverine (Perry Creek)	Western Canadian Coal Corp	Metallurgical coal	2 200 000 t	32 500 000 t (Feb 2008)
Quinsam	Quinsam Coal Corp (Hillsborough Resources Ltd)	Thermal & PCI coal	500 000 t	23 090 000 t (Dec 2007)
Trend	Peace River Coal Inc	Metallurgical coal	1 400 000 t	21 600 000 t (June 2007)

TABLE 1. CONTINUED

Mine	Operator	Commodity	Mine	Operator	Commodity
Industrial Minerals					
4J	Georgia-Pacific Canada Inc	Gypsum	Harper Ranch	Lafarge Canada Inc	Limestone
Apple Bay	Electra Gold Ltd	Geyserite	K2	K2 Stone Inc	Flagstone, wall stone, thin veneer
Ashcroft	IG Machine and Fiber Ltd (IKO Industries Ltd)	Basalt (roofing granules)	Kettle Valley quarries	Kettle Valley Stone Company	Ashlar, flagstone, thin veneer
Benson Lake	Imasco Minerals Inc	Limestone	Lime Creek	Imasco Minerals Inc	Limestone
Blubber Bay	Ash Grove Cement Corp	Limestone aggregate, dolomitic limestone	Moberly	HCA Mountain Minerals (Moberly) Ltd	Silica sandstone
Bud	Absorbent Products Ltd	Bentonite	Monteith Bay	Lehigh Northwest Cement Ltd	Geyserite
Burrell Creek	Roxul (West) Inc	Monzonite (mineral wool)	Mount Brussilof	Baymag Inc	Magnesite
Buse Lake	Lafarge Canada Inc	Volcanic ash (alumina-silica)	Mount Meager	Great Pacific Pumice Inc	Pumice
Craigmont	Craigmont Mines Joint Venture	Magnetite tailings	Nazko	Lightweight Advanced Volcanic Aggregates Inc	Lava rock
Crawford Bay	Imasco Minerals Inc	Dolomite	Pavilion	Graymont Western Canada Inc	Limestone
Decor	Pacific Bentonite Ltd	Alumina, landscape rock	Red Lake	Absorbent Products Ltd	Diatomaceous earth, leonardite
Elkhorn	CertainTeed Gypsum Canada	Gypsum	Rock Creek	Mighty White Dolomite Ltd	Dolomite
Falkland	Lafarge Canada Inc	Gypsum	Sumas Mountain	Clayburn Industries Ltd and cement manufacturer partners	Clay, shale and sandstone
Fireside	Fireside Minerals Inc	Barite	Swansea Ridge	Canadian Pacific Railway	Gabbro (railroad ballast)
Gillies Bay	Texada Quarrying Ltd (Lafarge Canada Inc)	Limestone, aggregate	Van Anda	Imperial Limestone Company Ltd	Limestone
Giscome	Pacific Lime Products Ltd	Limestone	Winner	Roxul (West) Inc	Gabbro (mineral wool)
Giscome	Canadian National Railway Company	Basalt (railroad ballast)	Zeotech Bromley Ck	Heemskirk Canada Ltd	Zeolite

mine to make use of that facility's wash plant and shipping infrastructure. Those plans were put on hold in November 2008 when WCC suspended work to reopen Willow Creek in the face of market uncertainties.



Photo 4. Releasing coal at the Trend Mine.

Western Canadian Coal's **Willow Creek** mine area was planned for production at about 900 000 tonnes/year, increasing over the following two years to as much as 2.2 million tonnes subject to approvals.



Photo 5. Loading at the South Blind Pit, Brule Mine.

North-Central British Columbia - Major Mines

Imperial Metals Corporation's **Mount Polley** alkalic porphyry copper-gold mine increased mill throughput by about five per cent compared to 2007, and total proven and probable reserves increased by 4.3 million tonnes over the January 1, 2007 estimate. This increase extended the anticipated mine life to May, 2015. The Bell open pit was mined out in July 2008 and the Wight Pit was to have been mined out by the end of 2008. Meanwhile, large scale production was beginning from the Springer Pit. Imperial Metals' intent is to begin underground mining beneath the Wight Pit by 2010.

The **Gibraltar** mine, owned and operated by Taseko Mines Ltd, exploits a copper-molybdenum calc-alkalic porphyry. In December 2008, following an intensive on-lease exploration program, Taseko announced an ore reserve increase of about 28%, which could provide mill feed for the next 16 years. A first phase of mill expansion was completed in April 2008, with an investment of \$76 million. Phase II modifications will bring the mill up to its designed capacity of 49 800 tonnes per day and Phase III will increase that further to 77 100 tonnes per day in 2010. At that point Gibraltar's annual production is expected to be 82 million kg of copper and 1.6 million kg of molybdenum. Concentrate is shipped by rail to the port of North Vancouver.

2008 was the first full year of operation for Cross Lake Minerals Ltd's **QR** mine. Open pit mining ended in July 2008 with the exhaustion of the West Pit, and the operation moved underground in the Midwest Zone. Start-up reserves allowed for a mine life of about two years, but the company is optimistic that this could be extended. Higher than expected costs related to mining, and mill modification necessitated by the Midwest zone ore feed, set production back. Late in 2008 Cross Lake set about reorganizing its affairs with a view to improving the efficiency of its operation and increasing its revenues and closed the mine temporarily.

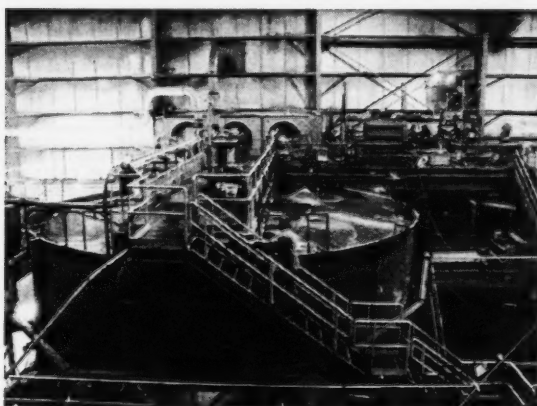


Photo 6. Filtration tank at Mount Polley mill.

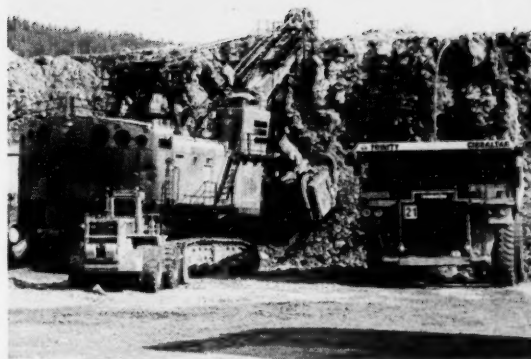


Photo 7. Loading operations in the Granite Pit, Gibraltar Mine.

Northgate Minerals Corp continued operations at its **Kemess** copper-gold mine in the Toodoggone area northwest of Mackenzie. Concentrate from the 52 000 tonne/day mill is shipped by truck and rail to Rouyn-Noranda, Quebec for smelting. In 2008, mining was concentrated in the West Pit, and the East Pit was completely filled-in. The projected mine life is to the third quarter of 2011.

Lightweight Advanced Volcanic Aggregates Inc continued small-scale production of lightweight aggregate and scoria from its **Nazko** quarry about 100 km west of Quesnel. **Hunterstone** Quarries, near Valemont, continued low-level production of talus-derived quartzite dimension stone for specialty construction.

South-Central British Columbia - Major Mines

Highland Valley Copper, a partnership of Teck Cominco Ltd (97.5%) and Highmont Mining Company Ltd (2.5%), continues to invest a large amount of capital and operations time towards the 2019 mine plan; in 2008 an estimated \$175 million will be spent. Equipment is fully engaged in a multi-year stripping program aimed at an east wall push-back at the **Valley** pit. During this period, production of copper and molybdenum has been lower as the operation incorporated more ore from the lower-grade, clay-rich **Lornex** pit.

The Kamloops cement plant of Lafarge Canada Inc continued to supply cement to meet strong demand in western Canada. Lafarge draws materials from the adjacent **Harper Ranch** limestone quarry and also the **Falkland** and **Buse Lake** quarries, which provide gypsum and alumina-silica rock respectively. The **Decor** pit of Pacific Bentonite Ltd also supplies alumina-rich burnt shale to the Lafarge cement plant in Kamloops from its quarry west of Cache Creek. Near Cache Creek, Graymont Western Canada Inc operates the **Pavilion** limestone quarry and lime plant on the Pavilion Indian Reserve.

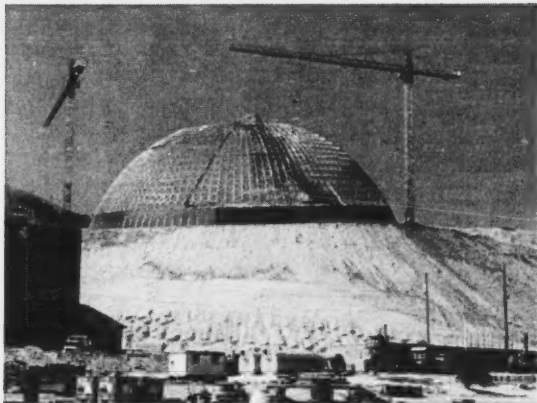


Photo 8. Geodesic domes over ore stockpiles being installed at the Highland Valley Copper mine near Logan Lake.

East of Ashcroft, IG Machine and Fiber Ltd, a subsidiary of IKO Industries Ltd, operates the **Ashcroft** basalt quarry and roofing granule plant where granules are sized and coated with one of several distinct colours and then shipped by rail and truck to IKO asphalt shingle plants throughout North America.

Craigmont Mines Joint Venture operates the **Craigmont** magnetite operation located near Merritt where tailings from the old Craigmont copper mine are processed and used in coal washing plants in western Canada and the Centralia mine in Washington State.

At its plant in Kamloops, Absorbent Products Ltd manufactures cat litter, barn deodorizer, industrial absorbents, and carriers for agricultural products. These are prepared from diatomaceous earth mined from the **Red Lake** quarry northwest of Kamloops and bentonite mined from the **Bud** quarry at Princeton. At Princeton, the **Zeo-Tech/Bromley Creek** zeolite quarry is operated by Heemskirk Canada Ltd who transports the material to Lethbridge and prepares it for use in lightweight cement for oil and gas wells.

Opal Resources Canada Inc produces attractive fire opal gemstones and jewelry from the **Klinker** property west of Vernon. Presently the gemstone jewelry is marketed from a retail store in Vernon and is aimed at the BC tourist market; however, the company aims to develop other North American markets.

Decorative rock and dimension stone are produced at numerous small quarries throughout the region. The best known producer is the Kettle Valley Stone Company of Kelowna which sells flagstone, ashlar, facing stone and landscape rock mined from the **Nipple Mountain, Kettle Valley, Canyon** and **Gemini** quarries.

Southeast British Columbia - Major Mines

Merit Mining Corp's new **Lexington-Grenoble** underground gold-copper mine achieved commercial

production in June. A 10 000-tonne underground bulk sample was extracted prior to production. The Lexington-Grenoble mine and the new **Greenwood Gold Project** are components of the company's **Greenwood Gold Project**. A temporary shutdown was announced near the end of the year.

Roca Mines Inc's new **MAX** underground molybdenum mine at Trout Lake began shipping concentrate in November 2007, and achieved full commercial production in April. A second adit has been completed; it will lower operating costs and improve ventilation.

Teck Coal Limited, the world's second-largest supplier of seaborne metallurgical coal, operates five large open pit coal mines in the Elk Valley (see Table 1). Projected total coal production in 2008 is up slightly from the previous year. Record high prices were obtained in 2008. Coking coal from the Kootenay coal fields is shipped approximately 1200 km by rail to Vancouver for export.

Baymag Inc produces high-quality magnesite from its open pit mine near **Mount Brussilof**, northeast of Radium. There are two gypsum producers in the Kootenay region: CertainTeed Gypsum Canada operates the **Elkhorn** mine east of Windermere, and Georgia-Pacific Canada Inc operates the **Four J** mine southeast of Canal Flats. Silica sand is produced from friable quartzite by HCA Mountain Minerals (Moberly) Ltd at the **Moberly** mine and plant north of Golden.

Imasco Minerals Inc produces a variety of crushed and ground rock products at its Creston Operations Plant at Sirdar. Sources include an underground dolomite mine at **Crawford Bay**, a limestone quarry at **Lime Creek** east of Salmo, and a granite quarry at **Sirdar**.

The **Winner** and **Burrell Creek** quarries, west and north of Grand Forks, respectively, supply feed for the Roxul (West) Inc mineral wool (insulation) manufacturing plant in Grand Forks.



Photo 9. Eagle Mountain, part of Teck Coal Limited's Fording River Mine.



Photo 10. Bags of molybdenum concentrate outside Roca Mines Inc's MAX mill.



Photo 11. An underground trackless vehicle at Myra Falls. Large pieces of equipment such as this must be disassembled to be taken into the mine and re-assembled underground.

Southwest British Columbia - Major Mines

At the **Myra Falls** Operations, the operator, Breakwater Resources Ltd, forecasts production for 2008 to be similar to previous years. Zinc-copper-lead-silver-gold ore has been mined at this largely underground mine for more than 40 years. In 2008 the Myra Falls operation reduced costs and improved efficiency. Although these efforts were successful, the price of zinc fell below the value needed to meet the cost of production. Late in the year Breakwater announced that the mine would temporarily cease production, but then was able to continue operating as zinc prices made a modest recovery. Reserves at the beginning of 2008 were sufficient for eight years of production at current rates (Table 1).

Quinsam coal mine continued with production at a level similar to recent years, with a forecast 500 000 tonnes clean coal in 2008. The thermal coal producer, now an underground operation, entered its 22nd year of operation with over 23 million tonnes of in-situ proven and probable reserves. Exploration and development work is ongoing. Coal is barged mostly to local customers, primarily Lower Mainland and Seattle area cement plants. International shipments are loaded onto freighters at a port facility on Texada Island.

Texada Quarrying Ltd will produce approximately 6 million tonnes at **Gillies Bay** on Texada Island, mainly limestone for the cement industry as well as some crushed aggregate. Ashgrove Cement's **Blubber Bay** quarry on Texada Island produces crushed aggregate and some dolostone for Ashgrove. Imperial Limestone Company Ltd supplies carbonate products for industrial applications in the US Pacific Northwest from its quarry at **Van Anda**. Imasco Minerals Inc produces white carbonate at its **Benson Lake** quarry on Vancouver Island. Suppliers of silica and alumina products to the cement industry include Clayburn Industries Ltd's **Sumas Mountain** quarry. The **K2** quarry (K2 Stone Electra Gold Ltd's **Apple Bay** operation and Sumas Shale Quarries Inc) is a significant

supplier of building stone. There are a number of smaller producers in the region.

Construction Aggregates Ltd expects to produce approximately 5 million tonnes of sand and gravel and ship approximately 4.5 million tonnes from its **Sechelt Pit**, serving the local markets and California. Polaris Minerals Corporation will ship approximately 2 million tonnes of sand and gravel from their **Orca** quarry in 2008, largely to the California market, but also to the Lower Mainland and Hawaii. At least four other quarries produce in excess of a million tonnes of aggregate a year.

MAJOR MINE DEVELOPMENT PROJECTS

The Ministry of Energy, Mines and Petroleum Resources listed five projects in the process for receiving a mine permit and the Environmental Assessment Office (EAO) listed 25 mine development projects as of November 2008. The latter list consisted of four fully permitted projects and a further 21 at either the pre-application stage or listed as under review, meaning that the proponents have made an initial submission to the Environmental Assessment Office. A number of projects making significant progress in 2008 are noted below.

Northwest British Columbia - Mine Development and Mine Evaluation Projects

Redfern Resources Ltd continued development of the **Tulsequah Chief** copper-lead-zinc-gold-silver deposit towards becoming a 2000 tonne per day underground mine. An airstrip was built to provide access for personnel and light supplies. Movement of heavy equipment and supplies is by conventional barge from Juneau, Alaska to a landing site near the confluence of the Taku and Tulsequah rivers. New roads were built to link the airstrip

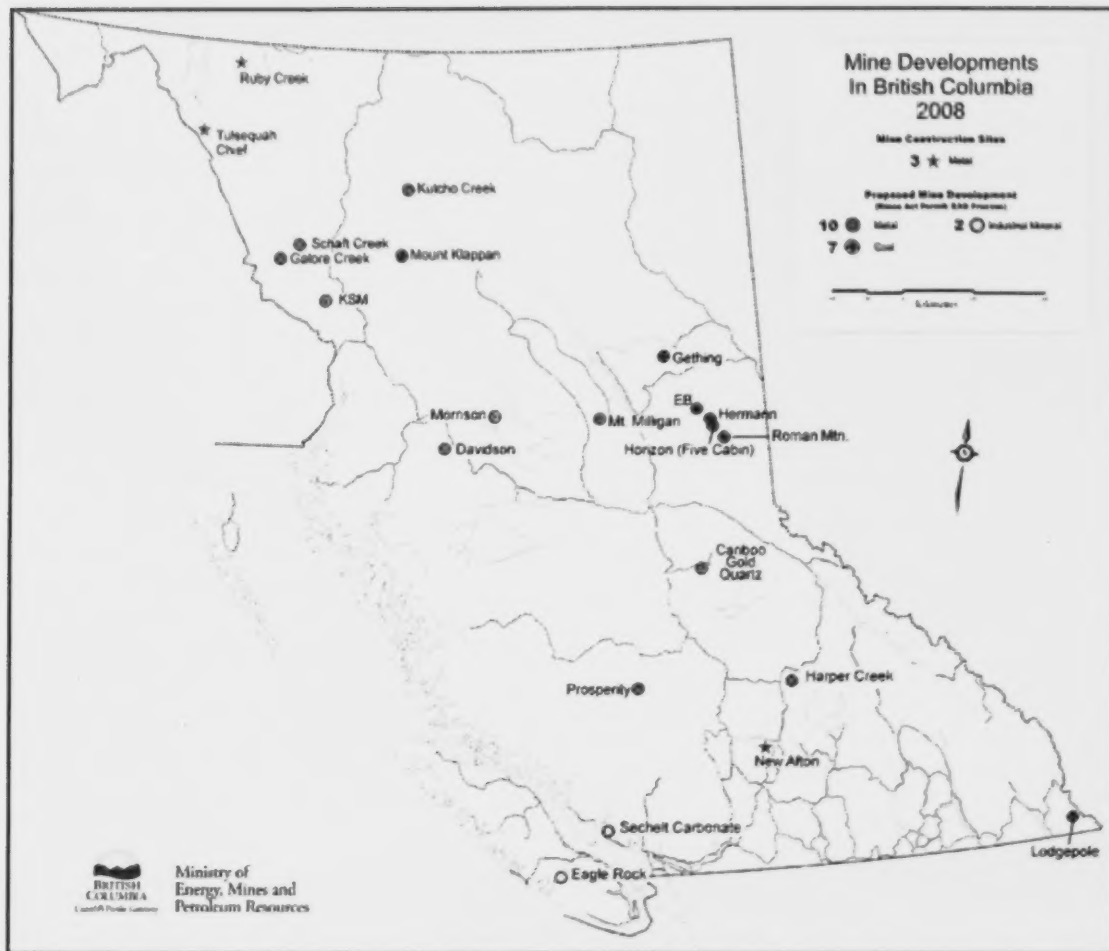


Figure 5. Major projects under consideration for mine development.

and barge landing with the mine. Probable reserves stand at 5 378 788 tonnes at an average grade of 1.40% Cu, 1.20% Pb, 6.33% Zn, 2.59 g/t Au and 93.7 g/t Ag. Tulsequah operated as a tracked mine in the early 1950s but most of the new ore lies below the bottom of the valley and will be accessed by a spiral ramp.

Construction of the 23 000 tonne per day **Ruby Creek** open-pit molybdenum mine near Atlin was put on hold by Adanac Moly Corp. Prior to the decision, a construction camp was established and access to the site was upgraded to make it suitable for equipment movement. Drilling expanded the deposit in a fault-displaced northern block.

Construction of a 65 000 tonne per day mine at **Galore Creek** was suspended in 2007 due to unanticipated cost over-runs. Co-owners Teck (formerly Teck Cominco) and NovaGold Resources Inc. conducted re-engineering studies of the project in 2008.

Key elements of the program were core drilling to provide better characterization of waste rock, assessment of an alternative mill and tailings site, and investigation of a new alignment for the access tunnel. Construction of the Galore Creek access road continued and the road is now essentially complete to Kilometre 42 of its 106 km distance. Galore Creek measured and indicated resources total 785.7 million tonnes grading 0.52% Cu, 0.29 g/t Au and 4.87 g/t Ag.

Installation of a ship-loader at the **Swamp Point** aggregate quarry near Stewart was slowed and the site is now under care and maintenance.

A project report for the proposed **Davidson** underground molybdenum mine located near Smithers is under review by the EAO. The project is owned by Blue Pearl Mining, a wholly-owned subsidiary of Thompson Creek Metals Company. The company proposes to extract higher grade ore at a rate of 2000 tonnes per day from a deposit with a resource of 75.3

TABLE 2. SELECTED MAJOR PROJECTS UNDER CONSIDERATION FOR MINE DEVELOPMENT IN BRITISH COLUMBIA, 2008

Project Name	Owner/Operator	Commodities
Cariboo Gold Quartz	International Wayside Gold	Au
Davidson	Thompson Creek Metals Company	Mo
Eagle Rock	Polaris Minerals Corp	Aggregate
EB	Western Canadian Coal Corp	Coal
Galore Creek	NovaGold Resources Inc	Cu-Au-Ag
Gething	Canadian Dehua International Mines Group Inc	Coal
Harper Creek	Yellowhead Mining Inc	Cu
Hermann	Western Canadian Coal Corp	Coal
Horizon (Five Cabin)	Peace River Coal Inc	Coal
KSM	Seabridge Gold Inc	Au-Cu
Kutcho Creek	Sherwood Copper Corporation	Cu-Zn-Au-Ag
Lodgepole	Cline Mining Corp	Coal
Morrison	Pacific Booker Minerals Inc	Cu-Au
Mount Klappan	Fortune Minerals Ltd	Coal
Mt. Milligan	Terrane Metals Corp	Cu-Au
Prosperity	Taseko Mines Ltd	Au-Cu
Roman Mountain	Peace River Coal Inc	Coal
Schaft Creek	Copper Fox Metals Inc	Cu-Mo-Au-Ag
Sechelt Carbonate	Pan Pacific Aggregates Ltd	Limestone/dolomite

million tonnes grading 0.177% Mo and truck the ore to Endako Mine for processing.

At **Schaft Creek**, Copper Fox Metals Inc continued to collect information for environmental assessment of a proposed 100 000 tonne per day open pit copper mine. Work focused on geotechnical drilling of the pit margins and on the tailings impoundment site. The



Photo 12. The Galore Creek access road (courtesy NovaGold Resources Inc).

measured and indicated open pit resource is estimated to be 812 million tonnes at a grade of 0.30% Cu, 0.020% Mo, 0.21 g/t Au and 1.8 g/t Ag. A spur road from the Galore Creek road, when completed, could provide access.

Sherwood Copper Corporation acquired the **Kutcho Creek** copper-zinc project located 100 km east



Photo 13. Paul Cocklin (Construction Manager) and Jay Fredericks (EMPR) overlook Round Lake from the Galore Creek mine access road. Proposed tailings site is in the distance.



Photo 14. Lupin above the camp at Schaft Creek (courtesy Copper Fox Metals Inc).



Photo 15. The camp at Kutcho Creek (courtesy Sherwood Copper Corporation).

of Dease Lake and carried out detailed drilling to delineate high grade copper reserves near surface. Measured and indicated resources total 17 690 703 tonnes grading 1.71% Cu, 2.36% Zn and 27.5 g/t Ag and 0.34 g/t Au. Sherwood Copper subsequently merged with Capstone Mining Corp. late in 2008. The companies proposed a 4000 tonne per day open pit mine.

The **KSM (Kerr-Sulphurets-Mitchell)** gold-copper project entered the EAO process in 2008. Seabridge Gold Inc contemplate a 120 000 tonne per day open pit mine at the porphyry copper deposit. The site is 40 km north of Stewart. Key to the development is the Mitchell zone which contains an indicated resource of 734 million tonnes at a grade of 0.69 g/t Au and 0.18% Cu. A further 667 million tonnes is in the inferred category; drilling to upgrade and expand the resource continued. Road access to the rugged site will be challenging; Seabridge began evaluation of a mill and tailings site 23 km northeast of the deposit that would be linked by a tunnel and conveyor.



Photo 16. KSM, Mitchell zone, marked by the gossan, is truncated by the paired Mitchell and Sulphurets thrust faults.



Photo 17. The Mitchell zone looking to the east (courtesy Seabridge Gold Inc).

Pacific Booker Minerals Inc. carried out geotechnical and hydrogeological work on the **Morrison** copper-gold project northeast of Smithers. A 30 000 tonne per day open pit mine is proposed for the deposit which has a measured plus indicated resource of 206 869 000 tonnes grading 0.39% Cu, 0.20 g/t Au and 0.005% Mo. Pacific Booker is working toward a submission for EAO.

Fortune Minerals Limited updated its feasibility study of a 3 million tonne per year mine at the **Mount Klappan** anthracite coal deposit and began to look for a partner to develop the property. Coal resources comprise 107.9 million tonnes classified as measured, 123 million tonnes as indicated and 2.572 billion tonnes classified as inferred and speculative. The study focused on truck transportation via a proposed new 100 km road linking the property to Highway 37 and then to the port of Stewart.

Northeast British Columbia - Mine Development and Mine Evaluation Projects

Peace River Coal Inc expected to complete a pre-feasibility study on the **Roman Mountain** project, located adjacent to the Trend mine, by year end, to be followed by applications to the EAO and for a Mine Permit. Subject to approvals, mining activity might begin as early as 2009. Roman Mountain could add 2 to 4 million tonnes of coal annually to the production from the Trend mine, with a 15-year life expectancy.

To the north of Roman Mountain, PRC proposes to develop the **Horizon** block as a combined open pit/underground operation. The **Horizon** mine, once brought into production, could have a life expectancy of about 17 years with an annual production of up to 2 million tonnes. An EAO application was expected to be submitted late in 2008. About 42 million tonnes of metallurgical and PCI coal resource have been identified, with production anticipated beginning in 2010 at 1.2 million tonnes/year.

Western Canadian Coal Corp has two projects with EAO certificates under development. The **EB** deposit, with about 8 million tonnes of coal resource, located near the Perry Creek operation, and the nearby **Hermann** project. For the latter, mining is proposed from a coal resource of about 9 million tonnes, with production at the rate of 0.8 to 1.1 million tonnes/year.



Photo 18. Percussion drill at the Horizon Project.

North-Central British Columbia - Mine Development and Mine Evaluation Projects

Terrane Metals Corp's **Mt. Milligan** project, located about 155 km northwest of Prince George, comprises an alkalic porphyry copper-gold deposit with measured and indicated resources of 590.8 million tonnes grading 0.193% Cu and 0.352 g/t Au. Processing ore at a nominal 60 000 tonnes/day, a mine life in excess of 15 years is forecast. The capital cost of the facility is estimated at \$917 million. During the construction phase up to 700 workers could be employed and, after opening, ongoing employment could be about 400. Terrane plans an updated feasibility study report for late 2009. Meanwhile, the EAO review process, permitting, and pre-construction activities will continue.



Photo 19. Mount Milligan (courtesy Terrane Metals Corp).

South-Central British Columbia - Mine Development and Mine Evaluation Projects

Upon receipt of a mine permit in the fall of 2007 New Gold Inc immediately began developing the **New Afton** porphyry copper-gold mine west of Kamloops. During 2008 an estimated \$165 million was to be spent preparing the underground workings for block-cave mining as well as site preparation for the 11 000 tonne per day mill. Owing to capital market volatility and the company's current cash position a new full production date has been delayed to 2012. A participation agreement with the Kamloops and Skeetchestn Bands was completed in March 2008 which provides for educational, employment, contracting and financial opportunities.

Taseko Mines Limited had its **Prosperity** porphyry gold-copper deposit, located southwest of Williams Lake, formally enter into the EAO process. The company is continuing with engineering studies and has completed new metallurgical work to confirm the character of ore feed. Some mill equipment with long lead times for procurement has been secured with payments.

At the **Harper Creek** copper project southwest of Vavenby, Yellowhead Mining Inc filed a project description with the EAO. Engineering studies are underway with respect to a mine design as well as field studies related to wildlife and environmental characterization. The company completed its fourth phase of drilling, re-logged and sampled core from previous drilling by Noranda and US Steel. They signed a memorandum of understanding with a Korean group to provide investment and future project financing.

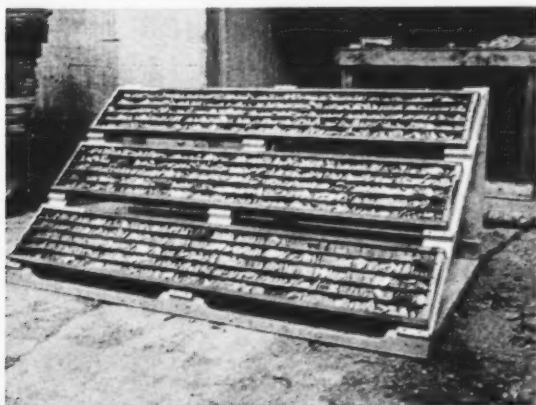


Photo 20. Old core being readied for re-logging at Yellowhead Mining Inc's Harper Creek project near Vavenby.



Photo 21. Winter drilling at Harper Creek 2007-08 (courtesy Yellowhead Mining Inc).

MINERAL EXPLORATION

Exploration spending fell short of last year's record of \$416 million, but remained remarkably strong given the challenging environment that many junior companies experienced in late 2008. At \$367 million, the 2008 figure is very high by historical standards, well above the recent five year average and close to the inflation-adjusted peaks of the past 35 years. Advanced stage exploration projects accounted for more than 40% of total exploration

spending (Figure 6). Early stage exploration follows at 30% of total spending. Grassroots exploration continues to be very limited but it is encouraging to see. Mine evaluation expenditures continue to be quite significant at 16% reflecting the number of projects being considered for mine development.

A number of projects were deferred or scaled back over the course of the year, but planning and funding were in place for most well before current financial conditions. Flow through tax incentives also appeared to extend the exploration industry's momentum through the year. Overall, the number of projects tracked by the Province's regional geologists was down to 388 from 470 last year and exploration drilling down 16% in metres drilled to 1.05 million metres.

There were 32 mineral discoveries reported in 2008 (Figure 7). These were mainly porphyry and vein style mineralization, with some skarn, massive sulphide and other types. Some of the finds were for base and precious metals, but a carbonatite occurrence with tantalum and niobium and an iron prospect were also discovered (Table 3). Six of the discoveries were made by British Columbia Geological Survey crews while traversing for geological surveys.

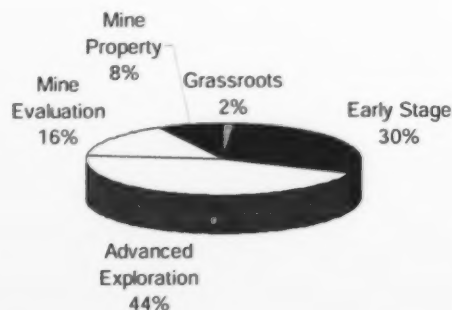


Figure 6. Distribution of exploration expenditures by project stage.

Northwest British Columbia - Major Exploration Projects

At the **Red Chris** copper-gold porphyry prospect, Imperial Metals Corporation built an access road to enable transportation of equipment for deep drilling and year-round exploration work. Holes with a target depth of 1500 m and a series of wedge offsets are planned as follow-up to a 2007 hole that intersected 1024 m grading 1.01% Cu and 1.24 g/t Au. This copper zone extends 700 m below a measured and indicated resource of 446 million tonnes grading 0.36% Cu and 0.29 g/t Au, which received a development certificate for an open pit mine in 2005.



Figure 7. Selected major exploration projects in British Columbia, 2008.

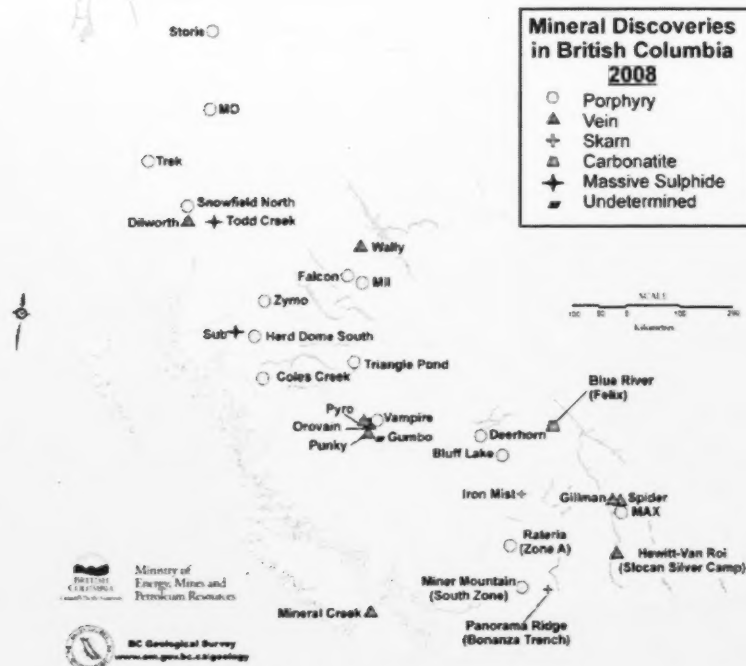


Figure 8. Mineral discoveries in British Columbia, 2008 (includes 2007 discoveries reported in 2008).

TABLE 3. MINERAL DISCOVERIES 2008

Property	Zone/Prospect/Description	Location	Operator/Organization	Type	Commodities
Trek		104G004	Romios Gold Resources Inc	Breccia - porphyry related	Cu, Au
Todd Creek		104A001	Intuitive Exploration Inc	Massive Sulphide (tentative)	Cu, Zn
Coles Creek		093E054	Callinan Mines Ltd	Undetermined	Ag
MO		104I033	Paget Moly Corp	Porphyry	Mo
Storie Dilworth	Western extension Below the Road, Below Helen, Snow	104P021 104B020	Columbia Yukon Resources Inc Ascot Resources Ltd	Porphyry Epithermal	Mo Au, Ag
Zymo	Hobbes zone	093L081	Canadian Gold Hunter Corp	Porphyry	Cu, Au
Snowfield	Snowfield North	104B059	Silver Standard Resources Inc	Porphyry	Au, Cu
Herd Dome South		093L022		Undetermined	Cu, Ag
Falcon		093N045	Geoinformatics Exploration Ltd	Porphyry	Mo
Triangle Pond		093F087/077	Nathen Kinkayd	Porphyry	Cu
Mil		093N009	Fjordland Exploration Inc/Serengeti Resources Inc	Porphyry (probable)	Cu, Au
Woodjam	Deerhorn zone	093A024	Fjordland Exploration Inc/Cariboo Rose Resources Ltd	Porphyry	Cu, Au
Wally		093N068	Mike Hirak	Vein	Pb, Au, Ag, Zn
MAX	Biogeochem anomaly near adit #2	082K062	Roca Mines Inc	Porphyry	Mo
Hewitt-Van Roi	Two new Van Roi extension showings	082F094	Klondike Silver Corp	Breccia/Vein	Ag, Pb, Zn
Gillman	Five on-strike gossanous zones	082K073	Manson Creek Resources Ltd	Vein	Ag, Pb, Zn
Spider Mine	New vein near #8 portal	082K072	Jazz Resources Inc	Vein	Pb, Zn, Ag
Blue River	Felix	083D014	Commerce Resources Corp	Carbonatite	Ta, Nb
Rateria	Zone A	092I036	Happy Creek Minerals Ltd	Porphyry	Cu, Mo
Iron Mist		092P009	American Creek Resources Ltd	Skarn	Fe
Bluff Lake		092P094	Candorado Operating Company Ltd	Porphyry	Cu, Au
Miner Mountain	South zone and Au-bearing caliche	092H048	Sego Resources Inc	Porphyry	Au, Au
Panorama Ridge	Bonanza trench	082E031	Goldcliff Resources Corp	Skarn	Au
Mineral Creek	Ember vein	092F017	Bitterroot Resources Ltd/Mineral Creek Ventures Inc	Vein	Au
NTS 093C/08	Pyro	093C049	British Columbia Geological Survey	Breccia (Vein?)	Zn, Ag, Au, Te
NTS 093C/08	Punky	093C034	British Columbia Geological Survey	Vein	Cu
NTS 093C/08	Orovain	093C049	British Columbia Geological Survey	Vein	Cu
NTS 093C/08	Vampire	093C050	British Columbia Geological Survey	Porphyry	Cu
NTS 093C/08	Gumbo	093C030	British Columbia Geological Survey	Undetermined	Cu
NTS 103I/08	Sub	103I039	British Columbia Geological Survey	Massive Sulphide	Pb, Zn, Ag

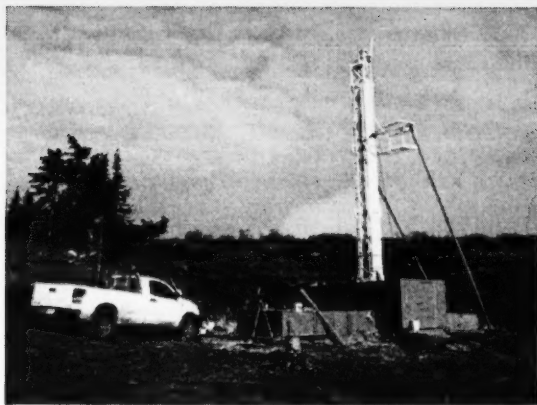


Photo 22. A Boyles 56-model drill at Red Chris, capable of drilling to 1500 m.

Silver Standard Resources Inc directed a major drilling program on its **Snowfield** property to exploration east of the Mitchell deposit on the KSM property. The Snowfield North zone was outlined over an 800 m extent with intersections such as 0.86 g/t Au and 0.18% Cu over 662 m. The new zone is continuous with an existing resource of 78.5 million tonnes grading 1.2 g/t Au.

Terrane Metals Corporation continued in-fill drilling of the **Berg** copper-molybdenum prospect northwest of Huckleberry mine. The program enhanced the molybdenum-rich core of the deposit and its supergene copper blanket. Prior to the program, indicated resources stood at 372.5 million tonnes at a grade of 0.31% Cu, 0.036% Mo and 2.1 g/t Ag.

In northwest British Columbia three new porphyry copper-gold systems were explored by drilling. Canadian Gold Hunter Corp worked the **Zymo** property west of Smithers, in the Galore Creek district, Inmet Mining Corp tested the **Grizzly** property and Romios Gold Resources



Photo 23. Berg drill camp, situated on the barren core of the copper-molybdenum deposit; the ore zone underlies the recessive area and the hornfels zone is on the skyline.

found a breccia zone on the **Trek** prospect. There were many other notable porphyry copper projects in the region; Durango Capital Corp drilled the **Big Bulk** and **FH** prospects on its extensive Hastings project, Carmax Explorations Ltd explored the **Eaglehead** property, Kenrich Eskay Mining Corp worked to find the source of copper-rich boulders on the **Babs** property in the Granisle district and, near Huckleberry mine, Gold Reach Resources Ltd defined a resource on the **Seel** property.

At **Turnagain**, east of Dease Lake, the focus for Hard Creek Nickel Corp was on determining platinum-palladium content of its bulk-tonnage nickel prospect, and on metallurgical test work. Columbia Yukon Explorations Inc continued to expand the **Storie** molybdenum deposit near Cassiar. The indicated resource is 98.3 million tonnes grading 0.064% Mo, but positive step-out holes up to 450 m to the west will significantly increase the resource.

The past-producing **Kitsault** molybdenum mine was acquired by Avanti Mining Inc. Avanti commenced a program to validate and augment an indicated resource of 158 million tonnes at 0.10% Mo, with a view to re-opening the mine.

Bard Ventures Ltd delineated a substantial new molybdenum zone on its **Lone Pine** property located between Smithers and Houston. In the vicinity of Cassiar, Velocity Minerals Ltd drilled the **Haskins** prospect and Hastings Resources Corp tested the new **Swan** target.

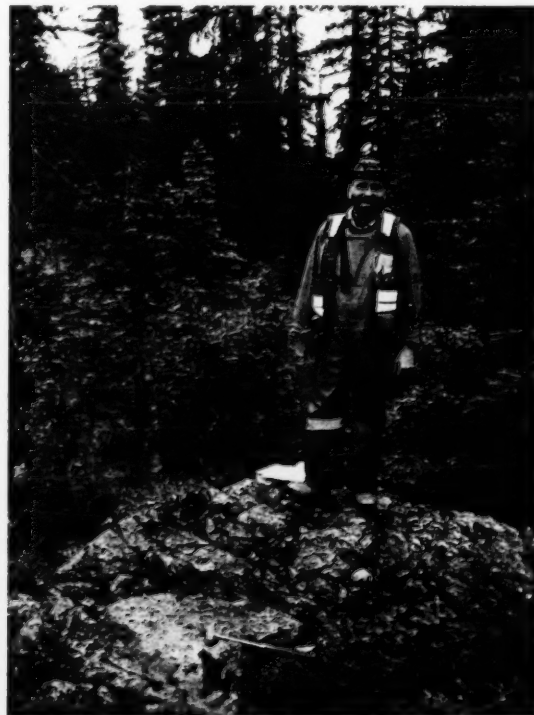


Photo 24. Geologist Bob Johnston on the discovery outcrop, a chalcopryite-bearing quartz stockwork at Zymo.

Paget Moly Corp worked on the **MO** southeast of Dease Lake and on **Laura** north of Hazelton.

Exploration for a gold-silver rich volcanogenic deposit like Eskay Creek continued to attract Kenrich Eskay Mining Corp to the **Corey** and **SIB** properties. Amarc Resources Ltd advanced the **Aspira** project in the Sitlika belt north of Burns Lake from a grassroots zinc anomaly to drilling a comprehensive program. Other volcanogenic massive sulphide programs included **Foremore** (Roca Mines Inc), **Barbara Ann** (Mountain Boy Minerals Ltd), **Joss'alun** (Lomiko Resources Inc) and **Todd Creek** (Intuitive Exploration Inc).

On the **Yellow Jacket** gold prospect near Atlin, Prize Mining Corp processed about one-half of a 10 000 tonne bulk sample in a newly built pilot mill to recover coarse, nugget-gold. Near Cassiar, in a similar geologic setting, Hawthorne Gold Corp reassessed the consolidated **Cassiar Gold** property, comprising the past-producing Table Mountain mine and Taurus bulk-tonnage prospect.

In the gold-rich Stewart district, Bravo Venture Group Inc conducted a major drilling program on the **Homestake Ridge** project. Significant gold and silver intersections will augment the inferred resource of 2.3 million tonnes grading 7.5 g/t Au. At the **Dilworth** gold-silver project, Ascot Resources Ltd explored a complex area with numerous showings, some with bonanza grades. Also in the Stewart-Iskut area ('Golden Triangle') Mountain Boy Minerals Ltd continued to drill the **Silver Coin** property, and Romios Gold Corp drilled at **Newmont Lake** to upgrade an inferred resource of 1.4 million tonnes at 4.4 g/t Au.

Many other gold and silver prospects were explored. Epithermal gold systems in the Atlin area were drilled at **Engineer** (BC Gold Corp), at **Tag** (CZM Capital Corp) and at **Golden Eagle** by Troymet Exploration Corp. Projects in the Skeena district include **TJ Ridge** (Roxgold Inc), the **Terrace** project (Argonaut Resources Inc), **Pass** (Grande Portage Resources Ltd), **Virginia Silver**

(Megasilver Inc), **Topley Richfield** (NXA Inc), **Nechako** (GMV Minerals Inc) and **Coles Creek** (Callinan Mines Ltd).

Northeast British Columbia - Major Exploration Projects

During 2008, Peace River Coal Inc continued evaluation of its **Roman Mountain** project, completing an additional 14 600 m of drilling. Some 900 m of on-lease drilling at the **Trend** mine itself were done to extend reserves. An additional 8010 m of drilling were completed at PRC's **Horizon** Project.

The Belcourt-Saxon Coal Limited Partnership, a 50/50 joint venture of Peace River Coal with Western Canadian Coal, undertook a 3900 m drilling project on the **Belcourt West** project, southeast of Tumbler Ridge. Colonial Coal Corp completed trenching and a 1650 m drilling program on its **Huguenot** project near Belcourt West. The company was following the southeast extension of the Belcourt South coal deposit.

Western Canadian Coal continued its on-lease drilling program around the **Perry Creek** mine in its Wolverine Project area, with the goal of defining and extending reserves. Fourteen rotary and three diamond drill boreholes were completed, totalling about 2900 m. Included in the Wolverine Project is the nearby **EB** deposit. About 7.4 million tonnes of ROM metallurgical coal are available at EB, and were delineated further by some 1100 m of drilling in 2008.

In 2008, WCC continued an on-lease drilling program on the Willow Creek mine site to better define the coal resource, completing 66 boreholes totalling about 7800 m. Total *in situ* measured and indicated resources, as of November 2007, stood at 33.0 million tonnes.

First Coal Corp pursued an extensive drilling program on its **Goodrich Central South** property southwest of the former Willow Creek mine. About 41 million tonnes of measured and indicated, and 32 million tonnes of inferred metallurgical coal resource have been identified. In 2009, First Coal plans to extract a 100 000 tonne underground bulk sample. In 2008, some 11 200 m of diamond drilling and 1500 m of geotechnical/hydrogeological drilling were completed.

Canadian Dehua International Mines Group Inc intends to develop its **Gething** property, located about 25 km west of Hudson's Hope, as an underground operation. By late 2007, the project was in the Environmental Assessment pre-application stage. No additional exploration was undertaken during 2008.

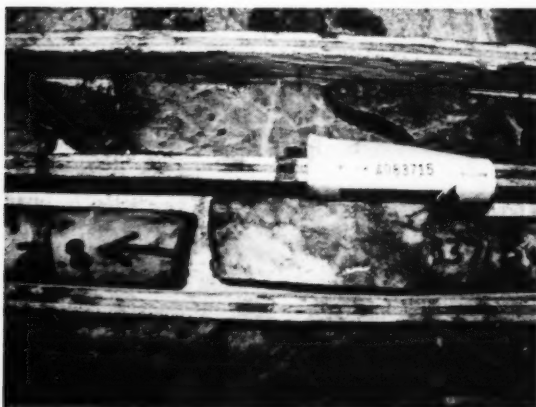


Photo 25. Native silver and pyrite in quartz vein breccia from the Snow zone, Dilworth project.

North-Central British Columbia - Major Exploration Projects

Imperial Metals Corp completed 16 198 m of exploration drilling at and close by its **Mount Polley** mine, supplementing an IP survey, trenching and geological mapping. The on-lease drilling focus was on the Southeast, Boundary and Northeast (Wight Pit) zones, with a focus on finding high-grade ore in advance of closing the Wight Pit at the end of 2008. One hole, PZ08-22, in the Pond zone (part of the Southeast zone) intersected skarn mineralization over 75.6 metres grading 1.16% Cu, 0.42 g/t Au and 11.70 g/t Ag. Holes in the Boundary zone magnetite breccia, and the Kidney zone adjacent to the Wight Pit, also saw rewarding intersections.

Fjordland Exploration Inc, with its 40% partner Cariboo Rose Resources Ltd, concentrated its 2008 activities on the Southeast zone of its **Woodjam** copper-gold-molybdenum porphyry prospect. Every hole completed to date on the Southeast zone has returned encouraging results, and all have bottomed in mineralization. Fjordland also completed reconnaissance drilling on the Takom and newly-discovered Deerhorn zones, with some 7400 m drilled in total.

Adjacent to Fjordland's Woodjam property, Northern Rand Resources Corp completed a drilling program of over 4300 m on similar targets on its **Megaton** project. Copper mineralization and native copper were encountered in several boreholes.

Hawthorne Gold Corp continued work on its **FraserGold** property, east of Horsefly. FraserGold is an orogenic lode gold deposit, in which particulate gold is described as occurring primarily in quartz segregations of stringers, veins, boudins and mullions. In 2008, Hawthorne completed about 10 400 m of diamond drilling on the site to better define the resource. Thirty-one of the 58 holes contained visible gold. Hole 08-330, which intersected 75.29 m grading 0.830 g/t Au, and hole 08-313, which intersected 96.07 m grading 0.771 g/t Au, were particularly impressive.



Photo 26. Southeast zone at the Woodjam project (courtesy Fjordland Exploration Inc).



Photo 27. Examining core at Hawthorne Gold's FraserGold project.

Exploration at the **Spanish Mountain** bulk tonnage gold property, a joint venture of Skygold Ventures Ltd (70%), and Wildrose Resources Ltd. (30%), continued at a high level in 2008. Gold mineralization is found as a "sediment-hosted vein" deposit, on which some 40 000 m of drilling were completed in 2008 to define the resource more accurately in the "Main zone." In April 2008, Skygold released a NI 43-101 compliant resource estimate on a defined "resource area" within the Main zone. Using a cut-off grade of 0.5 g/t gold, an estimated 67.06 million tonnes averaging 0.81 g/t Au in the Measured and Indicated categories, containing 1.75 million ounces of gold, were reported.

During 2008, Taseko Mines Ltd conducted extensive on-lease exploration at its **Gibraltar Mine**. Some 174 boreholes totalling 33 529 m were completed to test mineralization in East and West pit areas, an area south of the Granite Lake Pit, and also a zone NW of the Gibraltar West Pit ("Gibraltar North"). This drill program, along with the 2007 results, formed the basis for a new, increased, reserve estimate for the mine.

Richfield Ventures Corp continued work on its **Mouse Mountain** alkalic copper-gold porphyry project east of Quesnel. The property encompassed the Rainbow, Valentine and High-Grade zones which are distributed along a 1500 m north-northwest trend. The company's 2007 drill program continued into 2008 for a total of 1842 m.

In the Wells-Barkerville area, International Wayside Gold Mines Ltd continued work on its **Bonanza Ledge** mesothermal vein gold deposit, completing some 2740 m of drilling in 10 boreholes on the Goldfinch zone extension and nearby **Cow Mountain**. The company intends to develop a seasonally-operated small open pit mine at Bonanza Ledge and is still involved in the EAO process.

TTM Resources Inc's **Chu** prospect comprises an area of molybdenite-mineralized sedimentary rock adjacent to a granodiorite intrusive stock extending for about 2 km in a northwest direction. In February 2008,

TTM released a NI 43-101 compliant resource estimate for the deposit with an indicated resource of 57.1 million tonnes of 0.104% Mo with a cutoff of 0.08% Mo, and an inferred resource of 44.4 million tonnes of 0.100% Mo with a cutoff of 0.08% Mo. In October 2008 a Preliminary Economic Assessment indicated a "viable open pit mineable resource". During 2008, 99 boreholes were completed totalling about 48 000 m, and also an extensive 3D-IP survey.

Silver Quest Resources Ltd completed IP and geochemical surveys and a five-hole, 1596 m diamond drill program on its **Capoose** property. The company is exploring a potentially large disseminated silver-gold deposit, and results released to date, for two holes, were positive.

Pacific Cascade Minerals Inc completed an IP survey and followed-up with a 2300 m drill program at its **Brewster Lake** property, but encountered no significant molybdenum mineralization. The company is following up with an analysis of the results to direct further exploration.

Leeward Capital Corp completed an extensive drill program of 42 holes totalling 10 500 m on its **Nithi Mountain** porphyry molybdenum deposit, about 18 km east of the Endako molybdenum mine. On the property several mineralized zones cover an area about four by two km and are at least 200 m in depth. The 2008 program focussed on the Delta zone, with preparatory work on the Theta and Sigma zones and succeeded in identifying a new high-grade area within the Delta zone anomaly. In late September, Leeward published an inferred resource estimate for the combined Gamma and Delta zones of 165.25 million tonnes grading 0.026% Mo with a cutoff at 0.020% Mo.

Porpoise Bay Minerals Ltd followed-up preliminary work in 2007 with a 10-hole, 1000 m drilling program on its **Hoof** project. The company is exploring altered ultramafic rocks of the Cache Creek Complex for magnesium and/or nickel in a bulk-tonnage setting.



Photo 28. Drill rig at Capoose project, courtesy Silver Quest/David Pawliuk.

The Prince George and Mackenzie areas saw two major regional projects in 2008, both of them following-up the results of Geoscience BC's 2007 QUEST (Quesnellia Exploration Strategy) project. As a joint venture, Fjordland Exploration Inc and Serengeti Resources Inc examined 27 properties by airborne magnetics, geochemical sampling, and IP surveys. Xstrata Copper Canada completed over 100 km of IP surveys on 15 properties comprising its **Prince George Porphyry** project, and also nearly 4000 m of Pionjar drilling to sample the regolith just over bedrock.

Orestone Mining Corp continued work on its **Captain** copper-gold porphyry prospect, with a program that included extensive IP, magnetic and geochemical surveys supported by over 1000 m of drilling and recovered encouraging values for both elements.

Newstrike Resources Ltd completed a 2105 m drilling project, begun in 2007, on its **Jean** porphyry copper-molybdenum property. The property has been the subject of exploration since the discovery of the prospect in 1968, and historical estimates suggest that substantial tonnages of copper and molybdenum may be present at favourable grades.

Amarc Resources Ltd undertook an extensive program of silt and soil sampling, IP, and airborne magnetics on its **Bodine** and **Rapid** VMS properties (including about 1400 m of diamond drilling in Bodine).

Serengeti Resources Inc continued to delineate its **Kwanika** porphyry copper-gold-molybdenum deposit in the Quesnel terrane. In 2008, Serengeti completed some 30 000 m of drilling, along with geochemistry and IP; results continue to be impressive. Three mineralized zones, South, Central and North, have been investigated so far by over 55 000 m of drilling. The mineralized system is oriented in a north-northwest direction for up to 750 by 200 m across, and is up to 500 m deep. By late 2008, initial metallurgical testing was underway on a representative sample to predict copper-gold recoveries. A resource estimate is anticipated in early 2009.

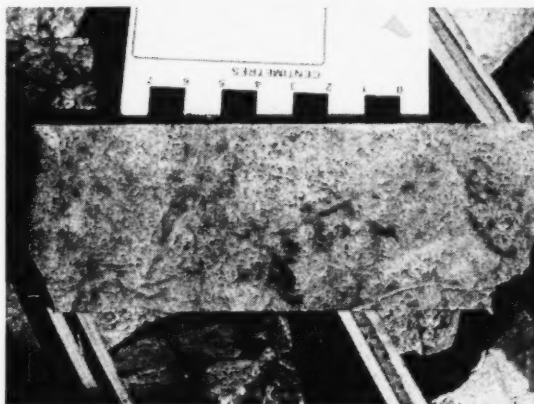


Photo 29. Native copper in drill core at the Kwanika project (courtesy Serengeti Resources Inc).

Alpha Gold Corp completed about 2400 m of drilling on untested targets within its **Lustdust** property, just north of Serengeti's Kwanika deposit, aimed at testing for continuity of gold-copper mineralization from Kwanika.

In January 2008, Geoinformatics Exploration Inc announced that the first two holes drilled in 2007 on its **Falcon** prospect had encountered encouraging porphyry molybdenum values. The two holes, drilled 400 m apart, returned 346 m grading 0.059% MoS₂ in the first, and 144 m grading 0.093% MoS₂ in the second. The company followed-up in 2008 with rock and soil geochemistry on the prospect, and a further 3000 m of drilling in which visible molybdenite was encountered in all eight holes.

Teck continued drilling on its **Lorraine-Jajay** and **Jan/Tam/Misty** projects to explore alkalic copper-gold porphyry deposits. In 2008, over 5700 m of drilling were completed at Lorraine-Jajay, Lower Main, Bishop and TooGood zones and on six new targets, including All Alone Dome North, Target X and Page Bowl. At Jan/Tam/Misty the company completed about 1200 m of drilling on the Boundary and Slide targets, and on one new target.

Milling of silver-gold ore from Sable Resources' underground **Shasta** mining/exploration operation, began in early 2008 as a seasonal operation. Most recently, underground development was concentrated in the Creek Zone, in a gently-dipping set of quartz veins and stockwork zone having a strike length of over 800 m. Ore is processed at the Baker Mill, about 11 km distant.

During 2008, Starfire Minerals Ltd continued its drilling program on its **Porphyry Pearl** gold property. Starfire completed a six-hole, 2130 m program and released the results of the first of these holes, which intersected 140 m grading 0.67 g/t Au.

Early in 2008, GGL Diamond Corp completed a VTEM (Versatile Time-domain ElectroMagnetic) airborne survey of its **McConnell Creek** property. This was followed by an extensive IP survey, geochemical sampling, and a diamond drilling program of about 1000 m, aimed at locating possible copper-gold porphyry mineralization.

Newcrest Mining Ltd carried out about 2500 m of diamond drilling on its **Croy-Bloom** gold-copper-molybdenum porphyry deposit prospect, which it had optioned from Serengeti Resources Inc.

In September 2008, Mantle Resources changed its name to Canada Zinc Metals Corp. The company continued intensive exploration of its **Akie** Sedex lead-zinc-silver project north of Williston Lake. The project involved 6226 m of heli-supported drilling, with 12 holes on the Cardiac Creek zone and two on the North Lead zone. Considerable effort also went into constructing a mainline road almost nine km in length, and some 3.7 km of trail, in the interest of improving access for future exploration. In June 2008, a NI 43-101 report on the property identified an inferred resource of 23.595 million tonnes grading 7.60% Zn, 1.50% Pb, and 13.0 g/t Ag in a

"relatively continuous zone." As currently defined the deposit is now at least one km in length and extends 600 m downdip.

South-Central British Columbia - Major Exploration Projects

Abacus Mining and Exploration Corp concentrated on its newly optioned ground in and around the **Ajax West** and **East** pits. Drilling between November and April of over 30 000 m will contribute new information for a global resource calculation. A preliminary economic assessment is proposed as well, whereby the company will examine the potential to develop a 60 000 tonne-per-day copper and gold open pit operation at the site.

Global Hunter Corp drill tested the **Rabbit South** molybdenum porphyry property west-southwest of Kamloops. Early results have shown elevated rhenium levels accompanying the molybdenite mineralization.

About 12 km southeast of the Highland Valley mine, Happy Creek Minerals Ltd had a successful year at the **Rateria** porphyry copper-molybdenum property. Geological evidence suggests that current mineralization is part of a five-kilometre corridor that has potential for further discoveries.

SNL Enterprises Ltd was active on the **Logan Copper** project located six km east of the Highland Valley Copper mine. The company completed a large mobile metal ion sampling and reconnaissance program and has drilled numerous combined geochemical and geophysical anomalies.

Commerce Resources Corp undertook its most concerted effort to date at its **Blue River** tantalum and niobium project. With the intention of completing a scoping study, the company proceeded with bulk sampling of the Upper Fir deposit for metallurgical studies as well as a 20 000 m drill campaign. A regional



Photo 30. Drilling at the Ajax East pit near Kamloops by Abacus Mining and Exploration Corp.

exploration program in search of new carbonatite bodies (as well as extensions to known ones) succeeded with the discovery of the **Felix** carbonatite.

Selkirk Metals Corp continued a very aggressive program at the **Ruddock Creek** zinc-lead-silver property located within the Script Ranges north of Revelstoke. A 982 m decline intersected the E-Zone and substantial underground drill program completed to infill and confirm the significant intersections from surface drilling. The company announced it will proceed with a preliminary assessment of the project including resource calculations for the portions of the E-Zone that have been adequately tested.

After its discovery hole in November 2007, Newmac Resources Inc set out to define the extent of its new zone at the **Crazy Fox (Anticlimax)** porphyry molybdenum-tungsten property north of Little Fort. Drillholes piercing the zone from the east and west has shown that it extends over 800 m to the south.

CMC Metals Ltd drilled the **CK** property located northeast of Clearwater to provide infill and confirmation data at the New Zone, which has been traced over a strike



Photo 31. Pyrochlore in a sample of carbonatite at the Blue River tantalum-niobium project.



Photo 32. Underground drilling of the E-Zone at Selkirk Metals Corp's Ruddock Creek project northeast of Avola.

length of 1300 m and to depths of over 100 m down dip. This property boasts numerous zinc-lead-silver mineralized occurrences of the Broken Hill-type and the company proposes to move the project through to a small-scale high-value mine.

At the **Taseko Lake** porphyry copper, gold and molybdenum property south of the Prosperity project, Galore Resources Inc completed a significant drill program at the Hub Northwest Copper, Mad Major, Syndicate and Spokane prospects. Nearby, Great Quest Metals Ltd drilled in and around the Empress deposit at the **Taseko** property in an effort to update historical resources and expand the deposit.

At the **Lac La Hache** porphyry copper-gold property of GWR Resources Inc, work continued at the Aurizon and Peach 1 zones. The former will be subject to ongoing definition drilling.

Bralorne Gold Mines Ltd extended its underground workings to the BK Zone at the **Bralorne** mine in the famous Gold Bridge mesothermal gold-quartz vein camp. Drifting along the 800 level delineated two significant mineralized sections and more underground work is proposed to explore this zone.

Northeast of the Bralorne Mine, Menika Mining Ltd drilled the Carter claim on the **Reliance** property. The program targeted a large mobile metal ion gold-silver-arsenic-antimony in soil anomaly.

Consolidated Spire Ventures Ltd focused most of its efforts at the **Prospect Valley** property this year on the Discovery South and North zones in search of low-sulphidation epithermal gold-silver targets in the maturing Spences Bridge gold belt. Improved access to the property will allow more economical infill drilling of a low-grade bulk-tonnage target.

The largest drilling program in the province occurred at the **Copper Mountain** copper-gold porphyry project of Copper Mountain Mining Corporation. Some 60 000 m of drilling was centered on defining the proposed "super pit" resource which incorporates previously mined Pits 1, 2 and 3. Two zones outside of the proposed super pit were drilled: the Pit 2 West Copper King and the Oriole Zones. Both have potential to add significant resources to the project. A positive feasibility study was completed and a memorandum of understanding with Mitsubishi Materials Corporation (MMC) was signed. Under the terms, MMC would contract to purchase all copper concentrate for the first 10 years of operation, acquire an equity interest in the project and arrange a \$250 million project loan.

Near Princeton, at the **Miner Mountain** property of Sego Resources Inc, the Granby and Regal zones were trench and drilled. New zones of mineralization were discovered to the north and south of the existing zones. North of Princeton, Candorado Operating Company Ltd increased its share in the **Man/Prime** porphyry copper-gold property and proposed late fall drilling and trenching.



Photo 33. Proposed super pit encompassing three existing pits at Copper Mountain (courtesy Copper Mountain Mining Corporation).

West of Princeton, Goldcliff Resources Corp acquired the mineral rights over portions of the Tulameen ultramafic complex this year with the creation of the **Tulameen Platinum** property. They completed an airborne geophysical survey as well a large stream sampling program in search of gold, platinum and palladium mineralization.

Goldcliff Resources Corp continued exploration for near-surface low-grade gold mineralization at the **Panorama Ridge** project a few kilometres east of the historic Nickel Plate gold mine at Hedley. The bulk of the drilling this year was at the Nordic showing, however, trenching and drilling were completed in and around the Bonanza Trench where late 2007 bonanza-grade results were encountered.



Photo 34. Consultant Grant Crooker showing the sawn channel samples in the Bonanza Trench at GoldCliff Resource Corp's Panorama Ridge property near Hedley.

Jasper Mining Corp completed a significant program at its **Isintok** molybdenum-copper-silver prospect southwest of Summerland in 2008. Although explored as a porphyry (bulk tonnage) exploration target, the company is reporting many high-grade molybdenum intersections that may warrant specific evaluation.

International Bethlehem Mining Corporation, through a wholly owned subsidiary, owns the Goldstream copper-zinc mine-mill complex north of Revelstoke and holds several properties, known collectively as the Big Bend project. This year the company was most active on the **Cottonbelt** property where it drill tested the hinge zone of the Mount Grace syncline for Broken Hill-type lead and zinc mineralization.

The **J&L** property of Merit Mining Corp, north of Revelstoke, was the subject of a large fall 2007 and early 2008 exploration program. Silver-lead-zinc stratiform mineralization was being evaluated by rehabilitating and expanding underground workings, but the company cut short its program in support of other commitments. Nearby on the south flank of Frenchman Cap Dome, Torch River Resources Ltd drilled the **Mount Copeland** high-grade molybdenum skarn project.

Southeast British Columbia - Major Exploration Projects

Kettle River Resources Ltd was active on its **Greenwood Area** holdings, which include many known mineral occurrences of varying types, including skarn, vein and shear-hosted. The main target was gold, and work focused on the **Minnie Moore** showing, a 2007 discovery, the **Battle** zone and the **Stemwinder** zone.

Activities at the **Jumping Josephine** property west of Castlegar undertaken by joint venture partners Astral Mining Corporation and Kootenay Gold Inc were centred on the **JJ Main** zone, a 2003 discovery of high-grade gold mineralization. The host structure extends for over 2.5 km and the possibility of more deep-seated porphyry-style mineralization was assessed.

West High Yield (W.H.Y.) Resources Ltd carried out a drilling program on its **Rossland** project on the western outskirts of the town of Rossland. The focus was on the magnesium potential of the **Record Ridge** ultramafic body. The property also has potential for lode gold, nickel and cobalt. In the same camp, Rossland Resources Ltd drilled the **Southbelt** property immediately south of the town of Rossland.

The **Jersey-Emerald** project south of Salmo was the site of underground drilling by Sultan Minerals Inc. Work was designed to test the East Emerald tungsten and East Dodger molybdenum zones. The underground **Jersey** lead-zinc and **Emerald** tungsten mines closed in 1973.



Photo 35. Drilling on Kettle River Resources Ltd's Greenwood area properties.

Duncastle Gold Corp carried out a drilling program on the **Yankee-Dundee** property near Ymir. The objective was to identify extensions of the high-grade polymetallic (silver, lead, zinc and gold) vein material that was worked in the past.

Roca Mines Inc carried out two surface drilling programs at the **MAX** molybdenum mine. A molybdenum biogeochemical anomaly in close proximity to the mine portals was one target, while the other was the Ridge tungsten zone.

Taranis Resources Inc drilled the **Thor** property, located on the eastern flank of Great Northern Mountain in the Ferguson area. Results to date suggest that various known occurrences, previously classified as polymetallic (silver, lead, zinc, gold and copper) veins, are part of a single, laterally-extensive massive sulphide system.

The **Slocan Silver** project of Klondike Silver Corp, east of New Denver, is in a rich past-producing district of vein-style silver-lead-zinc mineralization. Activities ranged from prospecting and geological mapping to underground rehabilitation and development. The company's **Silvana** mill at Sandon was operational and processed ore-grade material.

Valterra Resource Corporation undertook a drilling program on its **Swift Katie** property, southwest of Salmo. The **Katie** portion of the property hosts an alkaline copper-gold porphyry occurrence, while the **Swift** hosts



Photo 36. Field office at Taranis Resources Inc's Thor property.

gold mineralization related to shear zones, but also has potential for porphyry-style mineralization.

Anglo Swiss Resources Inc was active on its past-producing **Kenville** property west of Nelson. Recent work has focused on underground rehabilitation, mill upgrading and drilling. The company wants to embark on a pilot underground production and milling program, while continuing to explore for gold veins and porphyry-style gold-copper.

Jasper Mining Corporation carried out a large diamond drilling program on its **McFarlane** molybdenum property east of Kootenay Lake near the community of Gray Creek. The company believes there may be potential for recovery of both high-grade and bulk-tonnage material in a porphyry setting.

Max Resource Corp drilled the **Howell** intrusion-related gold property southeast of Fernie. Mineralization occurs disseminated in Paleozoic carbonates and as quartz stockworks in both intrusives and sediments. There is also believed to be potential for carbonate replacement-style mineralization.

Each of Teck Coal Limited's five mines carried out programs aimed at establishing reserves outside of the active pits. In the Elk Valley coalfield Fording River Operations drilled on **Castle Mountain**, Greenhills Operations drilled the **Cougar North Extension** and **Phase 6 Extension** areas and Line Creek Operations drilled on **Mt. Michael**. In the Crowsnest coalfield, Elkview Operations carried out drilling programs in the **Baldy Ridge** and **Natal Ridge** areas and Coal Mountain Operations continued to assess the potential of the **Marten-Wheeler** area.

Kennecott Canada Exploration Inc began evaluation of the **Crowsnest** metallurgical coal property east of Fernie in the Crowsnest coalfield. The objective of the project is to identify reserves amenable to underground longwall mining.

Southwest British Columbia - Major Exploration Projects

IMA Exploration Inc. optioned the **Hushamu** property in 2008 and carried out a significant drill program focusing on the **NW Expo** area targeting porphyry style gold molybdenum and copper mineralization. The company also began infill drilling on the Hushamu deposit itself. The company hopes to upgrade the inferred resource and collect data on molybdenum grades, not currently included in the resource estimate.

Sand and gravel producer Polaris Minerals Corporation, operator of the **Orca** quarry, conducted exploration on its northern Vancouver Island properties in 2008, consisting of Becker drilling and high resolution resistivity surveys.

Explorations efforts at **Myra Falls** in the early part of the year focused on the Marshall Zone. Positive results were reported. For example Hole MR15-0014 intersected 6.6 m (true width) of 12.8% Zn, 0.8% Cu, 109 g/t Ag, 2.7 g/t Au and 1.1% Pb. Future drill testing of the Marshall Zone is planned when a suitable drift is completed. The inferred resource at the Marshall zone is 2.0 million tonnes at 8.8% zinc. Exploration drilling in the latter part of the year moved closer to existing mine infrastructure and also met with success.

Hillsborough Resources Ltd carried out definition drilling at **Quinsam North** and **7-South**. The programs consisted of rotary and core drilling to define and upgrade the resources and for geotechnical and environmental testing. The company hopes to obtain necessary permits, proceed with feasibility studies and develop mine plans for underground and a potential open cast operation. They expect to significantly expand and extend coal mining operations at Quinsam in future.

Compliance Energy Corporation and partners Itochu Corporation and LG International Corp reached an agreement to purchase freehold coal, mineral and gas rights from West Fraser Mills Ltd. This consolidated the joint venture's Comox Basin holdings. The partners agreed to provide the funding necessary to reach a production decision on the **Raven** coal project. The Raven deposit's measured and indicated resources stand at 39 million tonnes with a further 59 million tonnes in the inferred category.

A joint venture between Bitterroot Resources Ltd and Mineral Creek Ventures Inc conducted a significant drill program and continued processing a bulk sample at the **Mineral Creek** Project. Based on early results, they have purchased new equipment which is expected to allow much higher throughput. Early drill results from a newly-discovered vein on the property are impressive, with 253.6 g/t Au over an estimated true width of 1.5 m (Hole BTT-L54 from 64.3 to 68.8 m).

At the **Catface** copper prospect Selkirk Metals Corp drilled approximately 2400 m in eight holes. Drilling was intended to confirm historical drill intersections. Assays available at the time of writing have done so, and in addition indicated significant and consistent silver values. The Cliff zone has a 1990 drill-indicated resource, estimated by SRK Consulting, of 170 million tonnes at 0.43% Cu using a 0.30% cutoff (or 390 million tonnes at 0.31% Cu using a 0.15% cutoff).

East of Ucluelet, near Kennedy Lake, Logan Resources Ltd published an initial resource estimate and preliminary economic assessment for the **Brynnor** magnetite deposit, an iron skarn. The NI 43-101 compliant estimate of 7 070 000 tonnes measured and indicated resource grading 51.3% Fe is based on historical data. There is a further 18 620 000 tonnes in the inferred category. Logan Resources conducted a drill program with the objective of upgrading and extending the resources.

Pacific Iron Ore Corporation is a new public company also focusing on magnetite iron ore exploration on southwest Vancouver Island at its **Pearson** project. There were historical resources calculated for individual deposits on the property. An airborne geophysical survey and a 53-hole drill program with potential to update and expand the resource were completed in 2008.

Prophecy Resource Corporation's 2008 program on the **Okeover** (or **OK**) property near Powell River included several step-outs around the North Lake zone. Prophecy's 2007 and 2008 diamond drilling programs were successful in extending North Lake zone mineralization. A 300 m step out to the east encountered porphyry copper-molybdenum mineralization in 2007 as did a 90 m step out to the south in 2008.

Westminster Resources Ltd drilled the **Honeybun** molybdenum porphyry prospect in 2008. Results of the approximately 1200 m helicopter-supported diamond drilling program were not yet available at the time of writing. Ten kilometres to the south, Pacific Cascades Minerals Inc. conducted IP and diamond drilling on the



Photo 37. Selkirk Metals Corp geologist Paul Gray shows Catface drill core to EMPR staff.

Crack molybdenum project in 2008. No significant intersections were reported following the 2008 program. Future work would return to the area of more promising intersections encountered in 2007.



Photo 38. Slings with a long line at the Crack molybdenum project.

BRITISH COLUMBIA EXPLORATION AND MINING INITIATIVES

During 2008, the Government of British Columbia continued a number of measures to assist mineral exploration, mining and mineral resource planning, including an aggressive program of enhancing the provincial geoscience information available to attract investment to sustain the mining sector. Some of the key initiatives undertaken in 2008 are listed below.

- The establishment of the **Minister's Council on Mineral Exploration and Mining**. This Council will help identify conditions necessary for the long-term success of mineral exploration and mining in an evolving environment. The Council will also provide input and make recommendations for a revised mining sector strategy. Members of the council have been chosen to represent the different facets of the mining and minerals sector. They are from the Aggregate Producers Association of British Columbia, Association for Mineral Exploration British Columbia, Coal Association of Canada, First Nations Leadership Council, Mining Association of British Columbia and the mineral industry.
- The Province also created a new economic mining task force to help British Columbia's mining industry weather the worldwide economic downturn. **The Economic Task Force for Mining** brings together industry leaders to monitor the economic situation and recommend measures to mitigate the effects of the global downturn on the mining industry; they report through the Minister's Council on Mineral Exploration and Mining.

- The Province supported mineral exploration work in pine beetle-affected areas of the province with \$6 million for **Geoscience BC's QUEST-West program**. The new QUEST-West funding is being used to generate new geoscience data, covering approximately 40 000 square kilometres extending from Vanderhoof - Fort St. James to Terrace and including the communities of Fraser Lake, Burns Lake, Granisle, Houston, Telkwa and Smithers.
- The commitment was made by the province to spend \$10 million on the environmental assessment process and First Nations consultation for the **Northwest Transmission Line** along Highway 37 in northwestern British Columbia. According to the Mining Association of British Columbia, this project could attract \$15 billion in new capital investments and create almost 11,000 jobs. As well, it would reduce greenhouse gas emissions by decreasing the reliance on diesel-electric power for industry and communities in that region. The new 287-kilovolt line would extend 335 km from Terrace to Meziadin Junction and north to Bob Quinn Lake. The environmental assessment is the first stage of the project and must be completed before construction begins. The Province plans to partner with the private sector to fund the total project, which is estimated to cost approximately \$400 million.
- The authorization has been given for provincial negotiators to include **revenue sharing with First Nations** on new mining projects. The process for revenue sharing will be decided on a project-by-project basis. The revenue-sharing approach will be used where there is a proposed project that will result in a new stream of direct resource revenue to the Province. This process will ensure that First Nations receive revenue throughout the life of those mining projects.
- The announcement that the province intends to introduce legislation which, subject to the approval of the legislature, will extend the **Mining Flow-Through Share Tax Credit** to the end of 2009, retroactive to Jan. 1, 2009. The Mining Flow-Through Share Tax Credit was introduced in BC in 2001, paralleling a federal program. The 20 per cent BC Mining Flow-Through Share Tax Credit is available only to individuals. The combined effect of the flow-through share deduction, the federal credit and the provincial credit for an individual investor is to reduce the cost of a \$1,000 investment related to mineral exploration to about \$383.
- The province has very **competitive corporate tax rates** at 11%, no corporation capital tax, and no sales tax on machinery and equipment.
- Companies can access a refundable **mineral exploration tax credit** of an additional 10% in prescribed Mountain Pine Beetle affected areas.

THE BRITISH COLUMBIA GEOLOGICAL SURVEY

The British Columbia Geological Survey (BCGS) of the provincial Ministry of Energy, Mines and Petroleum Resources is committed to supporting a thriving, safe and responsible mining industry for the benefit all British Columbians. It provides globally competitive geoscience expertise and data to attract mineral industry investment, advice to government on land use decisions, and geoscience information to the public. It has been provincial geoscience data custodian for more than 100 years; this includes data collected by Geoscience BC. The BCGS operates field-based, applied geoscience programs to fulfill its core responsibility of bedrock and surficial geological surveying and improving the mineral resource inventory of the province.

2008 PROGRAM

The BCGS had another active year with 11 field projects, ongoing progress in delivering geoscience data to industry, government and other clients, and significant collaboration and interaction with other agencies. The ongoing bedrock and surficial mapping programs with associated mineral deposit studies were carried out in the Chilcotin, Merritt, Peace River coalfield, Quesnel, Terrace/Kitimat and 100 Mile House areas (see Figure 8). New projects initiated in 2008 were surficial mapping in the Chilcotin, geological mapping near Princeton and geochemistry and industrial minerals in a number of locations around the province. Office based projects included completion of geology maps for north Vancouver Island, completion of the Property File database setup and initial posting of documents, delineation of regional geochemical catchment basins and a mineral potential assessment for the Atlin-Taku region. The results of these program activities are available on-line and many are described in the BCGS's annual *Geological Fieldwork 2008* publication: www.empr.gov.bc.ca/Mining/Geoscience.

The BCGS continues to address the impact of the Mountain Pine Beetle infestation in the central interior of the Province by expanding its 2006 - 2008 map coverage in this region. Despite its untested mineral potential, the Province's central interior has been under-explored in part due to widespread glacial deposits and young volcanic cover rocks blanketing the area. The objective is to help diversify local economies by attracting mineral exploration activity which can lead to potential new mines. In other parts of the Province, both mineral exploration and mining are essential drivers of local employment and tax revenue, and directly support the development of regional infrastructure.

While geological mapping by the BCGS does not specifically focus on the search for new mineral occurrences, significant mineralization is discovered almost every year during the course of fieldwork. For

example, during the summer of 2007 mapping crews in the Chezacut area in the Mountain Pine Beetle infested area discovered five mineralized zones in a ~1000 km² area where only one mineral occurrence was known previously. As well, a volcanic hosted massive sulphide occurrence was found in the Terrace-Kitimat area.

PARTNERSHIPS

Many of British Columbia Geological Survey programs involve cooperative partnerships with other agencies, universities, First Nations, local communities, and industry. Geoscience BC, a key partner of the BCGS, has become an increasingly active organization that is contributing new geophysical, geochemical and other geoscience data. Specific projects involving Geoscience BC in 2008 were till sample re-analysis near Babine Lake, regional geochemical sample re-analysis in the Terrace area, and uploading all Geoscience BC data on MapPlace. The BCGS continued its long collaboration with the Geological Survey of Canada on a number of field programs, including technical assistance to the Targeted Geoscience Initiative in southern and central British Columbia. The BCGS also was an active member of the National Geological Surveys Committee and the Committee of Provincial Geologists.

GEOSCIENCE BC

Geoscience BC works in partnership with industry, academia, government, First Nations, and communities to fund applied geoscience projects with the objective to attract mineral and oil and gas exploration to British Columbia. Many of their projects are identified through an annual process of requests for proposals for innovative geoscience projects. In addition, Geoscience BC develops major projects to generate new geoscience data for priority areas in British Columbia. In all cases, Geoscience BC seeks collaborative and partnership projects that come with supportive funding.

In 2008, Geoscience BC continued to sponsor geoscience projects throughout the province, all designed to attract mineral and oil and gas investment to British Columbia.

- Geoscience BC released the results of the \$5 million QUEST Project (*Q*uesnellia *E*xploration *S*trategy) in the first half of 2008. This project, designed to attract industry investment to the previously underexplored extent of the Quesnel Terrane between Williams Lake and Mackenzie, was co-funded by the Northern Development Initiative Trust, and included regional geophysical and geochemical surveys. The project was a great success, with over 850 000 ha of ground staked in the project area since the project was first announced in June 2007. New



Figure 9. Geoscience survey activity by the BC Geological Survey, 2008.

exploration projects followed up on this huge dataset in 2008.

- Geoscience BC started the QUEST-West Project in 2008 with regional geochemical and geophysical surveys between Vanderhoof and Terrace. The project has great community support, with co-funding from the Northern Development Initiative Trust, the Regional Districts of Bulkley-Nechako and Kitimat-Stikine. Geoscience BC released the first QUEST-West dataset in November 2008 (airborne gravity), with additional releases planned for early 2009.
- Geoscience BC, in partnership with Natural Resources Canada, Dajin Resources Corp and Sultan Minerals Inc, initiated an airborne electromagnetic survey of the Kootenay arc.
- Geoscience BC also released new geoscience reports and maps from across the province. This included new hyperspectral imagery for 10 sites across the province, reanalyzed geochemical data from the Terrace-Prince Rupert area.

- Since inception, Geoscience BC has also supported 47 projects identified through its Request for Proposal process.

Geoscience BC's annual Summary of Activities containing technical reports on these projects and others active in 2008 is released in time for the annual Mineral Exploration Roundup. Project details and data are available from their website at: www.geosciencebc.com.

ASIA PACIFIC INVESTMENT MISSION AND RELATED INITIATIVES

Throughout the year Ministry of Energy, Mines and Petroleum Resources staff work with companies, industry associations and other government agencies to attract Asian companies seeking investment and partnership opportunities to British Columbia and to coordinate matchmaking with foreign delegations. For example, the Ministry helps the mineral industry from the province by distributing standardized company profiles and assists incoming delegations by meeting with them and publishing various brochures and

documents in Asian languages. Both the profiles and brochures are available on the Ministry's website.

For the last three years the Ministry has sponsored investment missions to coincide with the China Mining Congress, a conference held in Beijing in mid-November. They have been led by the Minister of State for Mining. Exploration, mining and mining service companies and industry associations played key roles on the missions and the companies were given opportunities to showcase their projects and to meet interested Asian companies. The missions in 2007 and 2008 also included visits to companies and government agencies in Tokyo and Seoul as part of the Investment Mission.

Current plans are to organize a fourth Asia-Pacific Investment Mission for November 2009. Similar to the previous missions, the Ministry of Energy, Mines and Petroleum Resources will work with interested companies from the mineral industry, the Association for Mineral Exploration British Columbia, Geoscience BC, Mining Association of British Columbia and governmental agencies to participate in each of the missions.

If your company is interested in profiling your projects or investment opportunities over the next months or participating in the fall investment mission, you can contact the BC Mineral Development Office in Vancouver or the Marketing Branch in Victoria at the addresses below.

Jay Fredericks, Director
BC Mineral Development Office
Suite 300 - 865 Hornby Street
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604-660-3332
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4th Floor, 1810 Blanshard Street
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For more marketing-related information, visit the following website:

<http://www.empr.gov.bc.ca/MACR/EnergyAndMining/Opportunities/Pages/default.aspx>



Photo 39. All thumbs were up in November as Goldbrook Ventures Inc, a BC-headquartered business, and Jilin Jien Nickel Industry Co of China celebrated their joint venture agreement in Beijing.

2009 MINERAL INDUSTRY OUTLOOK

The past year began with great optimism in the exploration sector with commodity prices at high levels and seemingly few problems for mineral exploration companies to raise funds on the markets. The key issues facing many of the exploration, mine development and mining companies were shortages of skilled personnel, drill rigs and mining equipment. However, during the second half of 2008, the picture changed as the mining and mineral exploration industries were caught up in the wild roller coaster rides that overtook the financial markets. Between July 1 and December 31, 2008 the S&P/Toronto Stock Exchange (TSX) Composite Index dropped by more than one-third and over the same period, the S&P/TSX Capped Diversified Metals and Mining Index dropped more than 70 per cent. This resulted because investors, fearing a global economic downturn with lower demand for minerals, pulled out of mining equities.

In the mineral exploration industry during 2008, many companies were suddenly faced with the inability to attract financing. Some companies that recognized the implications of the events in the financial markets and weren't committed to completing their programs scaled back their exploration expenditures. They came through the year with better cash positions that can potentially sustain them for one to two years. In addition, as contract prices for drilling and other services in the mineral exploration industry fall with the reduced demand for these services, companies with a good cash position will be able to use their funds more efficiently. Through 2008, the exploration programs of larger companies were less influenced by the market upheaval as the majors are less dependent on the markets for financing exploration activities.

The turmoil in the markets in 2008 has been compared by some economists to that of 1973-74 because of the similarities with banking problems, oil

and food price shocks, and global recession. In turn, there is reason to believe that the market recovery will be led by commodity price increases in metals, coal and grains driven by increasing consumer demand in emerging markets, such as China and India. Certainly, the major infrastructure program of the People's Republic of China will increase demand for mineral commodities at a time when its economy is slowing.

In 2009, a reduction in exploration spending and drilling is anticipated as companies plan their exploration programs for the coming season within the new reality of conserving existing cash reserves and the increased difficulty in attracting new investment in mineral exploration. Gold, a traditional hedge in times of increased fiscal instability, is likely to remain stronger than other mineral commodities. This could lead to a shift in exploration focus away from base metals to precious metals until a more general recovery in mineral commodity prices occurs. The current financial climate will likely leave exploration and mining companies vulnerable to acquisition and merger activities over the next 12 to 18 months as astute investors in the market recognize good buying opportunities.

This downturn has been preceeded by mineral tenure acquisition dropping from the record year in 2006 (Figure 10). In 2008, new tenures covered 5 167 296 hectares compared to 5 838 010 hectares in 2007.

Over the next number of years it is also expected that British Columbia's mineral industry will build a stronger connection to Asian markets and companies. This will involve building on existing relationships with Japan and Korea and developing new business connections with China. These relationships can involve investments in mine developments and expansions, support for mineral exploration projects, purchasing coal and minerals and signing memorandums of understanding. British Columbia is Canada's Pacific Gateway and a natural business partner for Asian companies.

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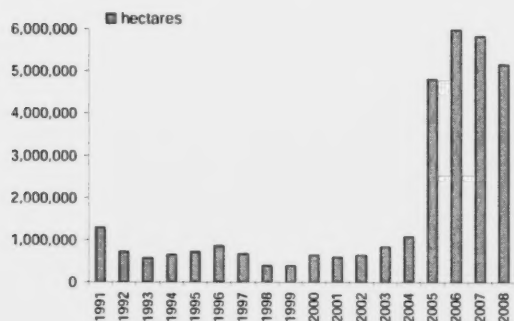


Figure 10. Mineral tenure acquisition in hectares 1991 - 2008.

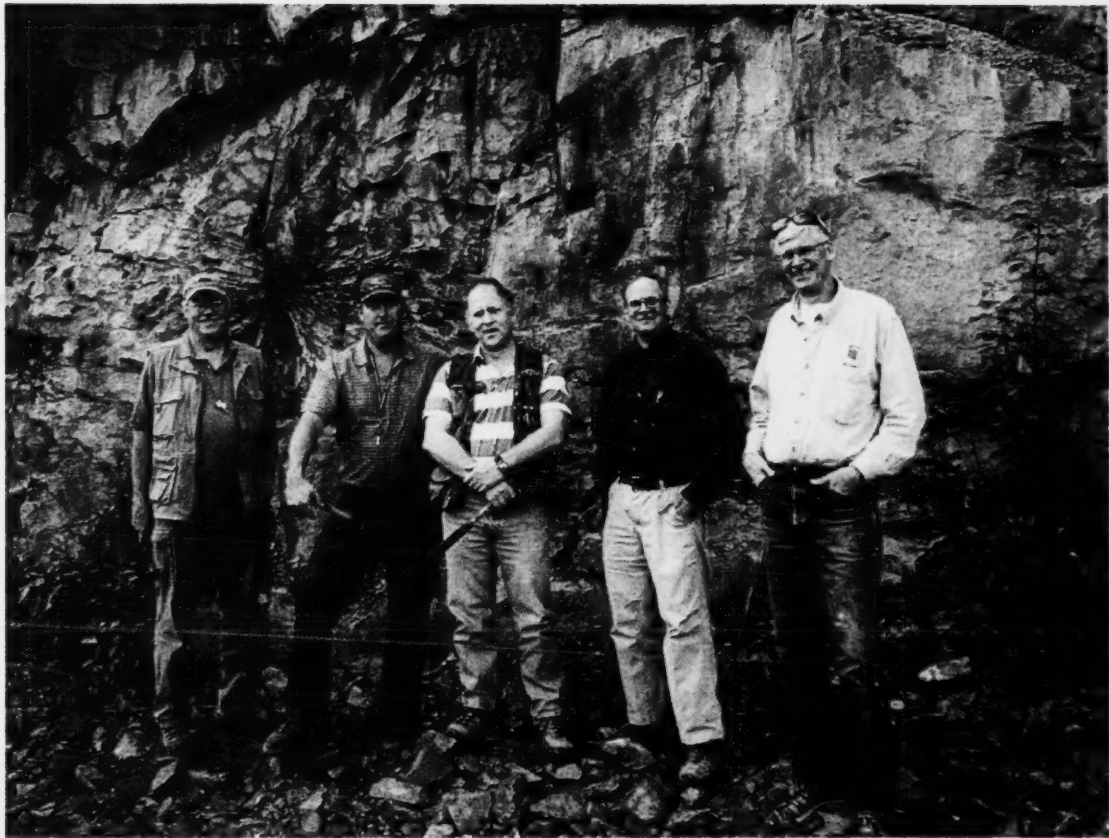


Photo 40. Regional geologists touring northwestern BC mineral deposits, 2008.

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